INDUSTRIAL EQUIPMENT NEWS

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

The Original IEN — FOUNDED 1933

What's New IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

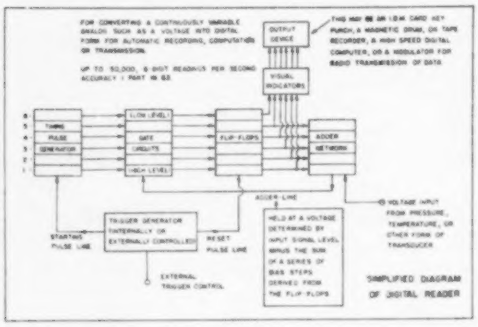
JUNE - 1951
VOL. 19 • NO. 6

Product Information
for specifiers and buyers in all industries

BREVITY—Identify by **IEN-5453** *if you write the maker*

COUNTING . . Electronic equipment for use in high speed data collection

Source: ARTHUR D. LITTLE INC.
28-32 Memorial Drive, Cambridge 42, Mass.



SIMPLIFIED DIAGRAM OF DIGITAL READER

Digital Reader designates new electronic equipment to collect data from such variables as acceleration, flow, magnetism, pressure, resistance, strain, temperature. It receives the information in the form of fluctuating electrical voltages and translates it into practical form for immediate analysis, computation, storage on punch cards, tapes or other media.

The information can be recorded in numerical form on punch cards with a standard IBM punch at the rate of 12 per sec. or on punched tape with the IBM Card-A-Type at 24 per sec. for relatively low-speed industrial control and research recording. It is capable of taking 50,000 readings per sec. in high-speed operation of rapidly fluctuating signals. It presents this information in digital form for storage on magnetic drums or photographic tape.

An internal trigger circuit permits sampling at any desired rate to the maximum of 50,000 per second. Sampling and conversion are also obtained by an external triggering device at arbitrary random, variable or periodic intervals up to the maximum. Each signal count is converted and presented in binary digital form. Each digit is available as "on" or "off" condition of a relay or soft tube. The latter can actuate a lamp for photographic recording, an electrode for recording on electrolytic paper, a standard IBM punch for punch-card recording or a recording-head pick-up for storage on magnetic tape. Operates on 110-volt 60-cycle ac. with 4-amp. input.

The company built its first assembly to obtain and convert data on infra-red spectra. As a result of that initial development it is now building a number of units as part of a special consulting service in the data-handling field. The assembly is in a housing that measures approximately 20 by 30 by 5 inches.

BREVITY—Identify by **IEN-5454** *if you write the maker*

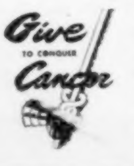
GRINDING . . Contact wheel supports abrasive belt on spiral teeth

Source: CARBORUNDUM CO.
1942 Buffalo Ave., Niagara Falls, N. Y.

Spiral teeth in the rubber rim of this new No. 61 contact wheel provide alternate support and relief for an abrasive belt riding over the wheel. The result is controlled break-down action in the abrasive bond on the belt to minimize glazing. The wheel is available for application on specified machines in 2 to 18-in. diameters and 2 to 14-in. widths. It can be specified also in roll assembly for use on machines such as the Hill Acme surface grinder in widths from 14 to 50 inches.

An example of application on a Hill Acme machine, employing a belt 30 in. in width, was made in grinding flat auto-bumper stock. The previous maximum of 300 pieces obtained prior to having to change the belt was increased to 600 pieces. Amount of stock removal was increased by 128 per cent.

1951 CANCER CRUSADE



Last year some 210,000 persons died of cancer. About one-third could have been cured. Your contribution to the American Cancer Society's 1951 fund-raising campaign will be used for cancer research, education and service to help save many of the millions now living who otherwise will die from the disease.

BREVITY—Identify by **IEN-5455** *if you write the maker*

CONTAINER . . Rubber fabric drum holds 55 gallons, collapses when empty

Source: UNITED STATES RUBBER CO.
1230-32 Sixth Ave., New York 20, N. Y.

Ustex cord fabric is impregnated with synthetic rubber and is molded in one piece in manufacture of this new collapsible 55-gal. rubber-fabric drum. Size is about the same as the standard steel drum of equal capacity. The assembly includes fittings for filling, emptying, lifting and handling.

The drum is filled from a collapsed position and rounds out as the filling proceeds so it is not necessary to provide an air vent. For the same reason liquids that oxidize easily can be protected from exposure to air during their gradual removal from the drum. The inner surfaces are free from corner pockets so liquid can be completely removed and the inside cleaned without difficulty.

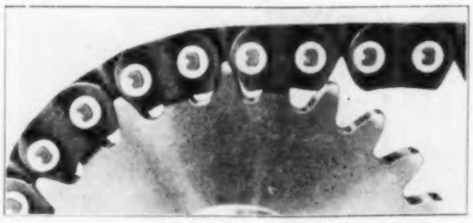
When full, the drum can be lifted, rolled, handled and stored in the same manner as a metal drum. It is non-corrosive, non-absorbent and highly resistant to weathering. When collapsed for return shipment, it is possible to load 2,500 of the units into a standard railroad box car, which will hold 300 drums after they have been filled.

Typical materials for which the drum is suitable include acids, emulsions, dry powders, greases, fats, oils, soap, pharmaceutical and industrial chemicals. The drum is at present in limited production and available for essential uses in the petroleum and liquid chemical fields.

BREVITY—Identify by **IEN-5456** *if you write the maker*

DRIVE . . Silent type chain and sprocket for high speed service

Source: MORSE CHAIN CO.
7603 Central Ave., Detroit 8, Mich.



Hy-Vo trade names new design of silent-type transmission chain to supplement the company's standard roller and silent designs for services involving high speed and transmission of 100 hp. or more. The chain is available at present in 1, 1½ and 2-in. pitch and in 2 to 12-in. widths.

Service involving a smooth even load and adjustable centers for 8 hr. of continuous operation rates a chain of 1-in. pitch at 95 hp. per inch of width on linear chain speed of 5,750 fpm. The same chain rates 40 hp. at 1,500 fpm. Maximum recommended speed for a sprocket with not less than 25 teeth is 3,600 rpm. for a ¾-in. pitch. It is 1,200 rpm. for a 2-in. pitch. Maximum recommended chain speed in continuous duty is 5,600 fpm.

The design is based upon a new principle for chain and sprocket engagement in which a compensating rocking joint provides chain-to-sprocket engagement that essentially eliminates chordal or polygon effect. The joint shifts the pitch line to engage the involute sprocket teeth so the chain follows a path essentially tangent to the sprocket pitch line in smooth and almost vibrationless action.

Detail illustrated information with chain data and a speed-to-hp. curve are contained in a new 16-page catalog, C72-51.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

WHAT DO YOU NEED?

READER SERVICE FORM . . Look between pages 16 and 17 or 92 and 93 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

From a Manufacturing Engineer

"I believe Industrial Equipment News is the best in its field. I never miss reviewing each article and advertisement. I have found IEN always has the latest machines and tools and materials available. I believe the form and size of the advertising space helps a lot in our desire to review all of the articles."

ADVERTISING CHECKING COPY
inserted between pages 2 and 3

Departments

READER SERVICE FORM — Pages 16-17 and 92-93
To assist you in securing the information you want

SUBJECT INDEX — Page 106
With our four-step suggestion on how to use it

CHAIN OF EVENTS — Page 4
Information you can supply will keep the chain complete

NEWS NOTES — Page 24
Reviews of unusually helpful literature and services

NEW LITERATURE — Page 74
Condensed reviews of current manufacturers' catalogs

"I WISH I HAD" — Page 108
Requests we cannot answer, printed in the hope you can

Our Selections in This Issue

COMMUNICATING — Page 3
Electronic device answers telephone, records messages

HEATING — Page 29
Framed electric panel presents a decorative picture face

HEATING — Page 45
Radiant glass panel operates electrically to 300 deg. F.

MAGNESIUM — Page 28
House paper describes new corrosion-resistant treatment

PAINTING — Page 2
Indexing machine to spray small mask-positioned work

PLASTIC — Page 97
Honeycomb structure is buoyant, made in flat sheets

PRESS TOOLS — Page 20
Strip stock reel minimizes manual handling at a press

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Electrostatic unit makes offset duplicating masters

SIGNALING — Page 5
Wired television reproduces observed remote conditions

SWITCH — Page 99
Toggle type unit delays opening of a lighting circuit

VALVES — Page 32
Two new booklets on how to use valves in pipe lines

VALVE — Page 101
Diaphragm operated, drains water, oil from compressed air

WATER TREATING — Page 39
Ultrasonic unit precipitates lime from boiler water

W. E. Irish. — *Editor & V. Pres.*
F. Morse Smith — *V. Pres. in Charge*

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N.Y.—LOngacre 3-1546

FILL IN AND SEND ALONG TO OTHERS INTERESTED IN PRODUCT INFORMATION

- ☐ *Plant Operating Mr.* ____________
- ☐ *Production Mr.* ____________
- ☐ *Engineering Mr.* ____________
- ☐ *Product Design Mr.* ____________
- ☐ *Purchasing Mr.* ____________
- ☐ ____________

BREVITY—Identify by IEN - 5457 if you write the maker

Two of the important basic requirements for a successful ball bearing application are treated very completely and authoritatively in this book by New Departure engineers.

Enables you to design correctly for every operating condition. Ask for booklet EL . . . New Departure, Division of General Motors, Bristol, Connecticut.

Nothing Rolls Like a Ball . . .

NEW DEPARTURE
BALL BEARINGS

140

BREVITY—Identify by IEN - 5458 if you write the maker

FREE! 32-PAGE HANDBOOK
SHOWS HOW TO STOP CONDENSATION DRIP

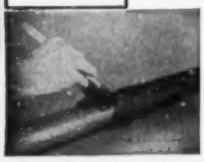
NoDrip

Stops Drip from:
- ✓ Cold water pipes
- ✓ Water filter tanks
- ✓ Metal or concrete ceilings
- ✓ Basement walls
- ✓ Condensers
- ✓ Air Ducts
- ✓ Blower pipes
- ✓ Dust Collectors
- ✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.



HANDBOOK SHOWS HOW

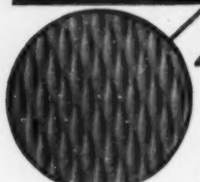
Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

J. W. MORTELL CO.
Technical Coatings Since 1895
Dept. IE, Kankakee, Ill.

BREVITY—Identify by IEN - 5459 if you write the maker

***In the interest of* METAL CONSERVATION *recover* CUTOUTS and BLANKS**



Full size photograph of RIGIDIZED METALS Pattern 5-WL

with **Rigidized** DESIGN-STRENGTHENED **Metals**

Your cutouts and blanks that are dented, scratched, or otherwise blemished may be converted to prime material having sales eye-appeal PLUS added strength.

Note in untouched photo above actual blanks that were converted from damaged material into attractive design-strengthened and textured three-dimensional prime metal.

If you have blanks or cutouts (NOT SCRAP) that have imperfections, send us a sample so that we may show you how this metal might be reconditioned in the interest of METAL CONSERVATION!

Send for RIGIDIZED METALS IDEA HANDBOOK TODAY

Rigidized Metals Corporation

44 OHIO STREET, BUFFALO, N.Y.

BREVITY—Identify by IEN - 5460 if you write the maker

PAINTING . . Indexing table machine to spray small mask positioned work

Source: CONFORMING MATRIX CORP.
330 Toledo Factories Bldg., Toledo 2, Ohio

Three colors are sprayed simultaneously by fourteen De-Vilbiss guns at three stations from beneath the indexing table of this new machine to coat small work pieces positioned in masks at each station. There are 24 stations, eight for each color. They come into position in groups of three on each 36-in. index motion of the table to locate under small vertical air-operated pistons that hold the work in place. The table comes to rest, locks and simultaneously releases spray from the guns for a predetermined interval. Then the sprays are shut off, the pistons released and the table indexes through its next 36-in. movement.

Operation is by air pressure at 90 pounds. Indexing action is 22 times per minute. Production is at 18,000 completed pieces in an eight-hour shift. The paint is circulated constantly through the hose lines and guns. It is released and shut off only at the nozzles.

Four operators serve the machine. One unloads finished pieces carrying the three colors from every third mask-holding fixture. The operator next to him in the direction of table rotation moves the work that has received two colors back into the third color position left vacant by the unloading operation. The third man moves the pieces with one color back into the second-color position. The fourth man puts unpainted pieces into the first position so all positions are filled when they reach the painting station.

Excess paint drips away and fog in the air beneath the table is exhausted through equipment provided for this purpose. The masks are the company's electro-formed design, previously described IEN-4375-48. They can be changed in the fixtures for changing work requirements. The machine is available to specification.

BREVITY—Identify by IEN - 5461 if you write the maker

SPRAYING . . Electric vibrator unit for insecticide, paint, oils, water

Source: BURGESS VIBROCRAFTERS INC.
178-82 N. Wabash Ave., Chicago 1, Ill.

Model VS-600 is new design of the Vibro-Sprayer, previously described IEN-11584-48. It operates on 110-volt 60-cycle ac. to spray insecticides, oil-base liquids, paint, water. It is made of materials that will not corrode. A vibrating element sets up the pumping and spray action, requires no lubrication. The detachable material bowl is a 25-oz. unit. Overall dimensions are 6¼ by 4 by 8½ inches. List price is about $11.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5462 if you write the maker

FOR EVERY INDUSTRIAL LIFTING JOB

DUFF-NORTON

Hy-Power ★ Hydraulic

JACKS

Capacities 3 to 50 Tons

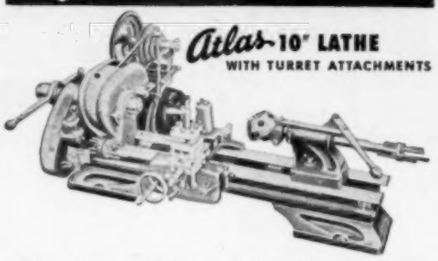
There is a Duff-Norton Hydraulic Jack for every lifting job throughout your plant. These powerful jacks give smooth, easy, dependable performance and will lift loads weighing from 3 to 50 tons. Save effort—time and money with Duff-Norton Hydraulic Jacks!

Write for Bulletin AD-16G.

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.
"The House that Jacks Built"

BREVITY—Identify by IEN - 5463 if you write the maker

LOWEST COST SEMI-AUTOMATIC TURRET LATHE



***Atlas* 10" LATHE**
WITH TURRET ATTACHMENTS

Every feature needed to handle small parts production *quickly* and *economically* is provided by this Atlas 10" lathe with turret attachments. It's the ideal low-cost solution to today's small parts production problems.

Headstock spindle is Timken roller bearing equipped to stand up through round-the-clock production runs. Heaviest back gears of any 10" lathe permits *heavier cuts*. 16 spindle speeds (28 to 1072 RPM) give correct speed for every operation. Complete V-belt drive. Spindle hole takes stock up to 15/16".

See how this rugged, precision-built Atlas can save you money on small part production runs. Send for latest catalog with complete details.

Atlas Press Co.
691 N. PITCHER ST.
KALAMAZOO, MICHIGAN

WATCHED PRECISION TOOLS FOR WOODWORKING AND METALWORKING

BREVITY—Identify by IEN - 5464 if you write the maker

Knocked OUT!

Fire is knocked out in seconds by this 15-lb. Kidde CO_2 extinguisher. Always ready—just aim—then pull the trigger. Write for free literature.

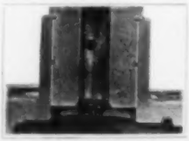
Walter Kidde & Company, Inc.
636 Main St., Belleville 9, N.J.

Kidde

BREVITY—Identify by IEN - 5465 if you write the maker

***EASY-FLO* helped PACKARD boost Ultramatic Drive production – and cut costs...**

To meet the big demand for Ultramatic Drive, Packard stepped up drive production to new high levels and simultaneously cut costs enough to permit an 18% reduction in price. A factor in both results was EASY-FLO brazing.



Cut-away of a cage and shaft assembly joint shows how EASY-FLO penetrates the full joint depth. Black dots are grooves in which alloy rings are pre-placed.

ABOVE—Drive parts and rings of EASY-FLO (arrows) used to join them. Clutch housing and cylinder sleeve at right are induction brazed in 87 seconds. Planetary cage casting and SAE 1151 steel shaft at left are induction brazed in 86 seconds.

BULLETIN 20 TELLS ALL

It's full of valuable brazing information. Write for a copy today.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.

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Please be sure to send your product news through promptly for editorial description at no cost or obligation.

INDEX TO ADVERTISING IN ATTACHED ADVERTISING CHECKING COPY

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INDUSTRIAL EQUIPMENT NEWS
461 Eighth Avenue

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Make a note of the IEN issue item number inserted above your advertisement and refer to this number to identify your replies to reader inquiries.

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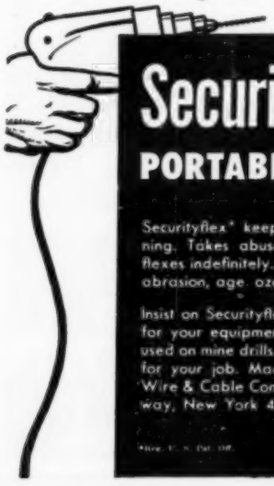

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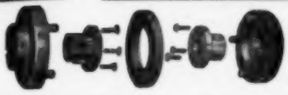

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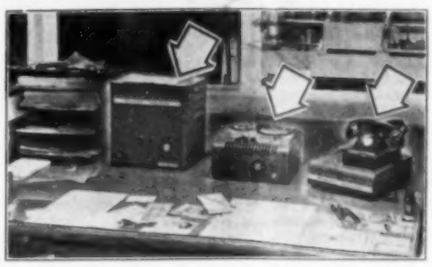
BREVITY—Identify by IEN - 5469 if you write the maker

COMMUNICATING . . Electronic device answers telephone, records messages

Source: ELECTRONIC SECRETARY INDUSTRIES INC.
811 W. National Ave., Milwaukee 4, Wis.



List price ranges from $275 to $425 for three new 1951 models of the company's Electronic Secretary. The complete device consists of three mechanisms. It will answer a telephone call, make a statement to the caller and record his reply. It will accumulate a large number of messages on a wire that operates steadily for one hour or can be controlled intermittently for a considerably longer time. The simplest of the three models omits the recorder and makes provision for connection to a recorder supplied by the user.

The telephone to be serviced is placed upon the top of the receiver-talker mechanism in which is a lifter motor, a microphone and speaker and two induction coils. One of these coils closes the motor circuit through the control mechanism when the telephone rings. The motor then drives a lifter arm that raises the telephone handset from its shut-off buttons and starts a phonograph player in the control mechanism. This plays a pre-selected message through the speaker into the mouthpiece of the handset. It can tell the caller that the office is closed or that the party being called is not present and can suggest another telephone number. It can invite the caller to leave a message. The second induction coil, adjacent to the earpiece of the handset, receives the voice impulse from the caller, amplifies it through the control mechanism and feeds it to the wire recorder. After a preselected interval the phonograph message then breaks in, tells the caller that his time is up, turns itself off, stops the recorder, drops the telephone handset back on the base ready for the next call.

BREVITY—Identify by IEN - 5470 if you write the maker

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Source: BASTIAN BROS. CO.
831-35 Bastian St., Rochester 1, N. Y.

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All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

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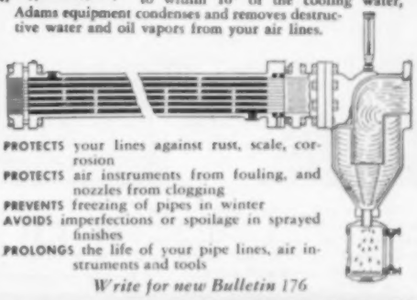

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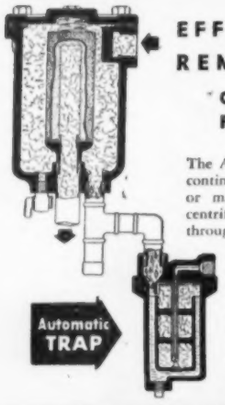

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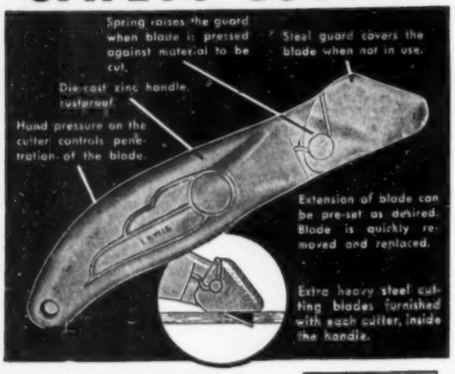

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What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 19 JUNE, 1951 No. 6

Chain of Events

The chain we have in mind is endless as long as each link functions properly. It forms a closed drive to build industrial activity and improve the way of life for all of us. Its four types of link are represented in product development, advertising and selling, selection and application, operation and maintenance. There are thousands of links of each type. The chain is a big one, fascinating to study as it drives the industrial wheels in this greatest of all industrial countries.

The links come around in orderly manner as certain among you develop new products to improve existing ones to speed production, to stand up better than previous facilities in today's demand for action. They continue as you see these things in literature and advertising and salesmen contacts, and as you choose among them, install them and set them to work.

We wonder if you realize how important it is that you go beyond the receiving side in all of this activity to record your experiences so they will be available to others like you through advertising and selling. The chain is complete only when you do because all useful information that appears in advertising copy and technical literature must originate with you.

Read any advertisement for industrial products or services. You can judge the help given by his engineers and plant men to the advertising manager who wrote it on the measure of practical useful data it contains. Your act of supplying such information to help a maker tell others in industry what his products can properly do completes and makes strong the closure link in the chain—the link representing advertising and selling.

The need for this information is very great. It becomes even more important as each day adds new products and new sources to the presently available product components and operating facilities. Lack of it results in advertising filled with unsupported statements, leads to choice of products which may not perform as promised, wastes time and money, tends to make you skeptical of the very printed material on which you must depend for a large measure of your own industrial education.

Add your knowledge to the general fund through your own advertising manager or back through the sales departments whose products you use. Tell them the good points and weak ones. Let them know what you have accomplished. Give them your ideas on the points you would like made in advertising and in technical literature and through contact with salesmen.

Particularly this month, if you make industrial products, arm your own advertising manager before he leaves to attend the Twenty-Ninth Annual Conference of the National Industrial Advertisers Association. The conference is to be held in New York City on June 24th to 27th primarily to consider ways and means to advertise to you in the coming year.

Put your views in writing to Blaine G. Wiley, Executive Secretary, at 1776 Broadway, New York 19, N. Y. Do these things and you will be helping to keep endless and make strong the chain of industrial events in which you have a personal stake.

W. E. Irish.

BREVITY—Identify by IEN - 5478 if you write the maker

HIGH EFFICIENCY

DUST CONTROL

with DUCLONE COLLECTORS

- Because each DUCLONE COLLECTOR is tailor-made for specific use . . . in proper balance — in shape, size of clone and vortex — in relation to air velocity.
- Because scientifically designed and built to eliminate all destructive eddy currents and resistance to centrifugal action.
- Because only DUCLONE is equipped with inlet control and adjustable vortex shield to give highest performance efficiency.
- Expertly engineered . . . simple and sturdy construction . . . assure long, continuous, heavy duty service.
- *A DUCON engineer will gladly confer with you on any dust problem.*

Write for descriptive, illustrated catalog DC49-1.

The DUCON Co.
MINEOLA, N. Y.

BREVITY—Identify by IEN - 5479 if you write the maker

S-A WINCHES

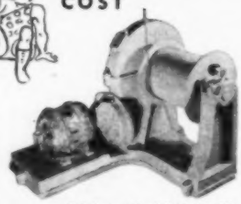
Save time and men

AT LOWEST COST

Don't take high-pay men from their regular jobs to lift or move heavy loads. It saves time and money to do most lifting and pulling jobs with an S-A Winch.

One man—with a hand winch—can lift as much as a ton—up to 3,000 pounds with an S-A Motor Winch. *Cut operating costs this economical way!*

Write for Winch Bulletin 340 and consider possible savings.



S-A Motor Winch Style No. K5

S-A Hand Winch Style No. 30

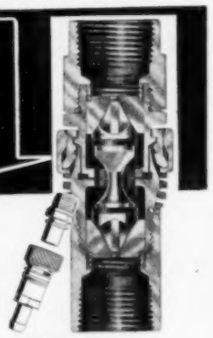
STEPHEN S-A ADAMSON MFG. CO.

Televel Bin Level Controls · Car Loaders · SealMaster Ball Bearings · SACO Speed Reducers · Car Pullers · Winches

231 Ridgeway Ave., Aurora, Illinois

BREVITY—Identify by IEN - 5480 if you write the maker

6 REASONS why American industry specifies WIGGINS



- ★ *Craftsmanship*
- ★ *Integrity*
- ★ *Uniformity*
- ★ *Low pressure drop*
- ★ *Leak proof seal*
- ★ *Engineering Service*

Over many years, Inst-O-Matic has acquired a value far above its mere mechanical qualities, a value proved by its acceptance throughout industry and in all branches of the armed services.

EQUIPMENT MANUFACTURERS

Users' experiences prove conclusively that this design stands up longer under extreme pressure and vibration, and rarely requires replacement. Inquire today.

Basic Sizes: ¼", ½", ¾"; intermediate sizes where needed. Unconditionally guaranteed leak proof from zero to maximum recommended pressure.

Wiggins

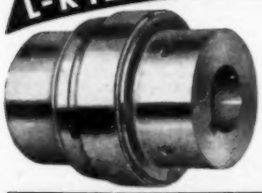
For proof of performance, write for name of nearest representative to E. B. WIGGINS OIL TOOL CO., INC., 3424 E. Olympic Blvd., Los Angeles 23, Calif.

INST-O-MATIC COUPLINGS

BREVITY—Identify by IEN - 5481 If you write the maker

A BETTER WAY TO FIGURE AND SELECT FLEXIBLE COUPLINGS... THE LOVEJOY SELECTOR CHARTS TELL YOU EXACTLY WHAT COUPLING YOU SHOULD USE!

LOVEJOY L-R FLEXIBLE COUPLINGS



are easy to install. No lubrication needed. No teardown for changing cushions.

WRITE FOR SELECTOR CHARTS

LOVEJOY FLEXIBLE COUPLING CO.

5014 W. Lake Street Chicago 44, Illinois

Also Mfrs. of Lovejoy Universal Joints and Lovejoy Variable Speed Transmissions

BREVITY—Identify by IEN - 5482 If you write the maker

SEALMASTER units are designed and manufactured to give maximum service with minimum maintenance time and expense. Permanently sealed and self-aligning, SEALMASTER units give you 1—dependable service 2—operating economy and 3—less maintenance.

WRITE FOR CATALOG 845 FOR FULL DETAILS ON THE SEALMASTER LINE

BEARING DIVISION

STEPHEN S-ADAMSON MFG. CO.

801 KIDDWAY AVENUE, AURORA, ILLINOIS · 1201 ANGELES, CALIF. · BELLEVILLE, ONT.

Factory Representatives and Dealers in All Principal Cities

BREVITY—Identify by IEN - 5483 If you write the maker

TOOLAGRAM

PROTO adjustable wrenches are all forged from alloy steel. The lower jaw design fully seats both square and hex nuts, preventing slippage. Sizes —4"-20"

Like our Wrenchund, you'll take notice when you see that PROTO *professional* tools work faster, safer, better. Modern designs? You bet! Special steels? Toughest yet! How buy? One or a set! See your dealer. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY

2271H Santa Fe Avenue, Los Angeles 54, Calif.

5183

PROTO TOOLS LOS ANGELES

BREVITY—Identify by IEN - 5484 If you write the maker

SIGNALING . . Wired television reproduces observed remote conditions

Source: DIAMOND POWER SPECIALTY CORP.
51 E. Main St., Lancaster, Ohio

An exact picture of the pouring action is transmitted to an operator's position in this new application of the company's Utiliscope television equipment. The camera is suspended above the actual point of metal flow in a continuous steel billet casting operation. The picture at the operator's position enables him to hold the molten metal level as required.

It eliminates the necessity for an operator at the uncomfortable and dangerous position where the metal is flowing. This television equipment was the first to be employed industrially. It was previously described IEN-8671-49.

BREVITY—Identify by IEN - 5485 If you write the maker

CLEANING . . Antiseptic detergent to clean and sanitize floor surfaces

Source: PIATT & SMILLIE CHEMICALS INC.
2320-24 Olive St., St. Louis 3, Mo.

Ask for sample test kit

First trade names new liquid concentrate for mixture with water, in the ratio of 1 to 32 parts, to mop on a floor. The liquid is spread with a mop and then is wiped up. The floor surface will be clean and sanitary. Application is at room temperature. If the floor is mopped regularly no rinsing is required for a surface cleaned by the new material.

BREVITY—Identify by IEN - 5486 If you write the maker

JACK . . Single acting design particularly for track work, 15 ton

Source: TEMPLETON KENLY & CO.
1012 S. Central Ave., Chicago 44, Ill.

Overall height of 12 in., lift to 6 in. and minimum toe height of 1½ in. are provided by this new Simplex Model 16A track jack. The toe is low enough to position the jack under a rail without removing ballast. The load trip can be operated from either the right or the left-hand side. The operator is protected by an improved safety thumb guard. The jack weighs 45 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5487 If you write the maker

TROMBETTA SOLENOID CO.

331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

BREVITY—Identify by IEN - 5488 If you write the maker

EFFICIENT *Electric* HEAT GIVES YOU $$$ SAVINGS

CHROMALOX *Electric* HEATERS

SAVE MONEY, TIME AND LABOR WITH THESE EFFICIENT AND PROVED HEATING UNITS

If you use heat in your production line, processes or products, Chromalox Electric Heaters can most likely point the way to added savings through increased efficiency, lowered costs, decreased working time. See for yourself how Chromalox Heaters can go to work so easily in your plant.

GET THIS BOOKLET—IT TELLS YOU HOW

EDWIN L. WIEGAND CO., Industrial Division
7505 THOMAS BLVD., PITTSBURGH 8, PA.
Send me the illustrated booklet "100 Ways To Apply Electric Heat."
Name
Company
Street
City Zone
State
I use heat for
10-18

See Chromalox Strip Heaters Advertisement, Page 11

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

BREVITY—Identify by IEN - 5489 If you write the maker

Faster Die Assembly... *Closer* Hole Spacing

Here's a way to gain all the advantages of R-B interchangeable punches and dies plus additional savings in time and money on die construction. R-B special retainer plates, made to your specifications, eliminate mounting individual retainers—ball retainer locks are built into the plate—thus are ideal for piercing parts with holes too close to permit separate retainers.

R-B special retainer plates are also particularly suited for progressive dies. They can be made in matched units for various punching stations, giving extreme accuracy. The punches or dies are interchangeable, enabling quick changes without time-consuming die-assembly.

*Richard Brothers

Get the whole story in this 48-page Free Catalog

ALLIED PRODUCTS CORPORATION
RICHARD BROTHERS DIVISION
Dept. 56 • 12615 Burt Road • Detroit 23, Mich.

Also Produced in Allied's Four Plants . . . HARDENED AND PRECISION GROUND PARTS • STANDARD CAP SCREWS • SPECIAL COLD FORGED PARTS • SHEET METAL DIES • ALUTE DIES CAST OF ZINC ALLOY • JIGS • FIXTURES •

BREVITY—Identify by IEN - 5490 If you write the maker

Hardens and Draws 4 Chisels for 1c

Rate: 1 every 10 seconds

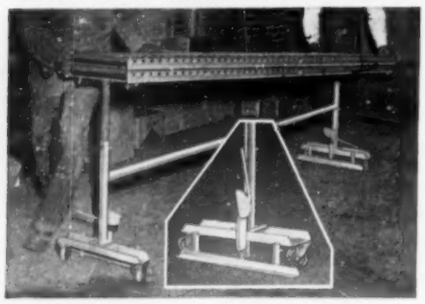
YOU CAN ENJOY low costs like these in your shop by using versatile Allis-Chalmers Induction Heaters. The same heater can braze, solder, anneal, case, and through harden by simply changing the work coil.

Work coils are easy to install. When coils are changed, there's no need for additional output transformers (needed on most units), which require special shielding and skilled help to install.

Low cost plus versatility makes the unit a welcome addition in many job shops. Call your nearby Allis-Chalmers Sales Office and find out what Induction Heat — the A-C way — can do to your production costs, or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3243

ALLIS-CHALMERS

BREVITY—Identify by IEN - 5491 if you write the maker



PORTABLE WHEEL and ROLLER GRAVITY CONVEYORS

Save Money on Your Handling Jobs

Standard 5' and 10' sections and 45° and 90° curves on portable tripod stands or portable section stands (as illustrated) with or without "Pelican" Floor Lock. (see insert).

Ideal for warehousing, loading and production line use. Easy to handle and move.

POWER UNITS
Belt type Horizontal and Floor-to-Floor "Power Helpers"

Live Roller CONVEYORS

ASK FOR FOLDER 1251

METZGAR

METZGAR CO.
417 Douglas Street, N. W.
GRAND RAPIDS 4, MICH.

BREVITY—Identify by IEN - 5492 if you write the maker

With a 5-Ton American MonoRail Crane and 3 men, 15 tons are unloaded and stored in only 30 minutes. An average of 27 tons per day from storage to processing. Call in your American MonoRail engineer — he'll gladly show you how automatic handling pays and saves.

THE AMERICAN MONORAIL COMPANY
13111 Athens Avenue • Cleveland 7, Ohio

BREVITY—Identify by IEN - 5493 if you write the maker

NEW SLIDE CHART

gives you information on
- **BENDING RADII**
- **COIL DIAMETERS**

for Stainless Tubing and Pipe from 3/8" to 5" O.D.

Just write a note on your company letterhead and we will send your copy of this useful Carpenter Stainless Tubing Slide Chart.

THE CARPENTER STEEL COMPANY
Alloy Tube Division Union, New Jersey

BREVITY—Identify by IEN - 5494 if you write the maker

WELDING . . Submerged arc machine feeds welding rod through hand head

Source: LINDE AIR PRODUCTS CO.
30 E. 42nd St., Room 308, New York 17, N. Y.

Type UWM-1 is a new assembly in the company's Unionmelt line of submerged-arc welding equipment to feed welding rod from a reel and apply welding current under automatic voltage control to hand-held head. Arc-submerging composition also feeds to the work area from a hopper that forms part of the head.

Voltage control, a reel holding 75 lb. of welding rod in coil form and the motor drive for the reel are contained in a wheel-mounted housing with connections for a suitable arc-welding machine and with a 17-ft. length of hose connecting to the hand-held head. The hopper on the head holds 3 lb. of granular welding composition. Operation starts when the rod is scratched on the work. It stops when the rod is lifted away. The welding equipment can be ac. or dc.

BREVITY—Identify by IEN - 5495 if you write the maker

PLASTIC . . Teflon extruded in rod and tube for machining uses

Source: POLYMER CORP.
405 Walnut St., Reading, Pa.

Machines into finished parts

Diameter is to 2 in. and production is by continuous extrusion of Teflon plastic in rod form in new equipment the company has installed. The company also is prepared to supply tubing from 3/8 to 5 in. in inside diameter or in larger sizes to special order to meet requirements.

BREVITY—Identify by IEN - 5496 if you write the maker

HANDLING . . Magnet chain sling employs cast steel yoke, rates to 50 ton

Source: AMERICAN CHAIN & CABLE CO.
927-31 Connecticut Ave., Bridgeport 2, Conn.

Endweldur trade names a new Ox-Bow magnet chain sling available with 1 or 1¼-in. links. The yoke riding in the lift ring prevents the chain from tangling. A pressure-lubrication fitting is included. Standard leg length is 43 and 49 in. in the two chain sizes. These lengths can be increased in multiples of two links representing 5½ and 6⅜ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5497 if you write the maker

It's a Robins Troughing Idler—with features no other belt conveyor idler can offer.

Robins Ball Bearing Troughing Idlers fit belt conveyors up to 36" wide. Robins Roller Bearing Troughing Idlers have exclusive Triple Grease Seal which locks grease in, keeps dirt and moisture out. Sizes to fit belt conveyors up to 60". Both types provide exclusive One-Shot Lubrication.

Immediate shipment from stock. Most sizes of Robins Idlers now carried in stock for immediate shipment. For Troughing, Return, or Flat Belt Idlers write for Bulletin 120-A.

ROBINS IDLERS

ROBINS CONVEYORS DIVISION
Hewitt-Robins Incorporated
Passaic, New Jersey

BREVITY—Identify by IEN - 5498 if you write the maker

New di-acro POWERSHEAR

offers CONTINUOUS ACTION *plus* VARIABLE SPEED from 30 to 200 strokes per minute

For high Speed

DIE-LESS DUPLICATING

The new Di-Acro POWERSHEAR has remarkable speed and accuracy for the production of small parts and pieces. Consider these points: **1. CONTINUOUS SHEARING ACTION** — no clutch to engage! Feeding speed determines shearing speed. **2. VARIABLE SPEED** — cutting cycle quickly set for each shearing operation. **3. EASE OF OPERATION** — fatigue is reduced, accuracy increases, production soars. **4. "SINGLE STROKE" SHEARING** — non-repeating safety clutch for jobs not adaptable to continuous shearing.

Any plant doing high speed precision work on smaller parts from any shearable material cannot afford to be without the DI-ACRO POWERSHEAR. Available in 12" and 24" shearing widths, capacity 16 gauge sheet steel. Also standard model.

SEND FOR 40 PAGE "DIE-LESS DUPLICATING" CATALOG giving full details on Di-Acro Powershears, also Di-Acro Benders, Brakes, Rod Parters, Rollers, Notchers and Punches.

DI-ACRO DIE-LESS DUPLICATING

O'NEIL-IRWIN
318 8th Ave. Lake City, Minn.

BREVITY—Identify by IEN - 5499 if you write the maker

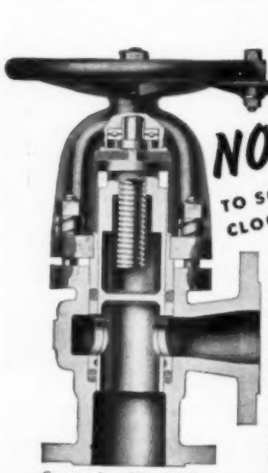
Oxweld

PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand-guided, it cuts irregular shapes. Operated on track this machine cuts straight lines. Adaptors are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

LINDE AIR PRODUCTS COMPANY
A DIVISION OF UNION CARBIDE AND CARBON CORPORATION
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

BREVITY—Identify by IEN - 5500 if you write the maker



NO SEAT!

TO SCORE . . . WEAR . . . CLOG . . . AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

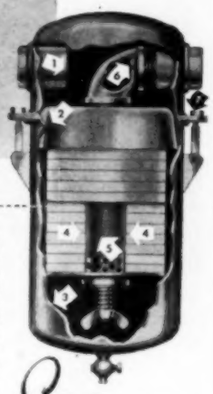
Cross section of Type "B" Seat-less Angle Valve, Flanged.

YARNALL-WARING COMPANY
122 Mermaid Ave., Phila. 18, Pa.

YARWAY BLOW-OFF VALVES

BREVITY—Identify by IEN - 5501 if you write the maker

Removes Last Traces of Oil and Moisture from COMPRESSED AIR LINES



THICK FELT DISCS PROVIDE SUPER FILTRATION

Double Action Principle Removes Moisture and Dirt Two Ways—Air is cleaned by both mechanical separation and filtration/absorption. Air enters at (1) strikes Deflector Cup (2) by which heavier droplets and dirt particles are directed to sides (3) and thence downward at high velocity to base. Mechanically cleaned air then passes at low velocity thru Discs (4) which filter the air and absorb last traces of oil and moisture. Clean, dry air passes out thru Bronze Screen (5) and Outlet (6).

Staynew ABSORPTION FILTER

Request Bulletin B-1A. Address Dept. 3

DOLLINGER PROTECTOMOTOR STAYNEW FILTERS

DOLLINGER CORPORATION
11 CENTRE PK., ROCHESTER 3, N. Y.

BREVITY—Identify by IEN - 5502 if you write the maker

the standard by which all other compounds are judged

'Bestolife Lead Seal Pipe Joint Compound has been the accepted standard for almost twenty years. Used on any air, steam, gas or liquid connection—at any temperature—at any pressure, 'Bestolife Lead Seal Pipe Joint Compound is guaranteed to give complete satisfaction—or your money back!

See Your Supply Dealer or Write for Literature and Prices

DISTRIBUTORS WANTED

I. H. GRANCELL
1601 E. NADEAU ST., LOS ANGELES 1, CALIFORNIA

BREVITY—Identify by IEN - 5503 if you write the maker

WANT MORE EFFICIENT— LONGER LASTING STEEL STAMPS?

USE "SAFETY" WEDGE GRIP LETTERS and FIGURES

- No Spall
- No Mushroom
- More Service
- Knurled Grip
- Patented under No. 2,089,794
- Thumb Side Markings

Knurled sides for positive grip—patented design provides perfect balance and deeper impressions. Especially recommended for toughest jobs on steel castings, cylinders, tool steel, etc. All sizes available ⅛" to 1" characters.

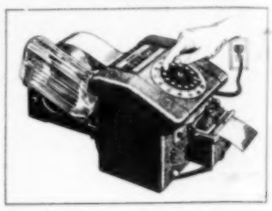
Write for Bulletin LF-50.

M. E. CUNNINGHAM CO.
SAFETY STEEL STAMPS
99 East Carson Street • Pittsburgh 19, Pa.

BREVITY—Identify by IEN - 5504 if you write the maker

DISPENSING . . Dial set unit to deliver measured lengths of tape

Source: MARSH STENCIL MACHINE CO.
705-9 E. "B" St., Belleville, Ill.



Dial-Taper Series 3D is a new machine to moisten and dispense gummed tape. The machine takes rolls of tape to 9 in. in diameter and from 1 to 3 in. in width. It employs a quart bottle to hold water for the moistening operation. Drive is by a 110-volt 60-cycle ac. motor. Overall dimensions are 21 by 9 by 10 inches. Weight is 50 pounds.

Control centers at a telephone-type dial which the operator rotates to select a desired length and to actuate the feed and cut-off mechanism. Length is minimum at 3 in. and increases in 3-in. steps to a maximum of 39 inches. List price is $165.

BREVITY—Identify by IEN - 5505 if you write the maker

PROTECTING . . Work uniforms of Orlon plastic for men and women

Source: MERCANTILE UNIFORMS INC.
Box 2, New York 1, N. Y.

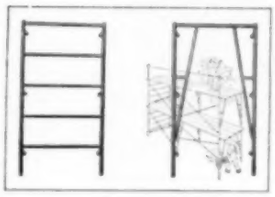
Fabric sample on request

Merlon trade names new line of uniforms to include full-length coats, open-back aprons, coveralls, pants and shirts for men, dresses and slack sets for women. They are made of DuPont Orlon fabric, which is resistant to damage by chemicals, greases, paints, mechanical abrasion, exposure to sunlight. The fabric launders well, has low moisture absorption, can be ironed at temperatures to 325 deg. F. The material will not shrink and is resistant to wrinkling.

BREVITY—Identify by IEN - 5506 if you write the maker

SCAFFOLD . . Tubular steel sections assemble to required form and height

Source: BIL-JAX INC.
102 Wyse Road, Archbold, Ohio

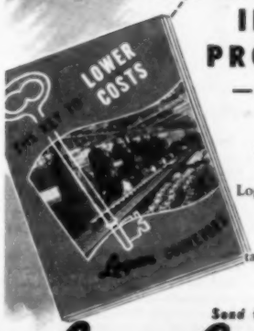


Two end frames, one ladder type and the other open type, have been added to the company's standardized scaffold sections, previously described IEN-11404-48. Both are designed for scaffold assemblies in light-duty operation. The frames measure 36 in. in width by 6 ft. in height and are interchangeable. Connections are welded. The frames combine into complete assemblies by attaching diagonal braces as in the company's original design. Fastenings need not be removed due to the patented brace lock.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5507 if you write the maker

Open the way to . . . INCREASED PRODUCTION —AT LOWER COST



YOU can increase productivity, save time, effort, and space with a Logan-engineered materials handling system. "Key To Lower Costs" contains actual case histories of many Logan users.

Send for Your Copy Today!

Logan Conveyors
LOGAN CO., 200 CABEL ST. • LOUISVILLE 6, KY.

BREVITY—Identify by IEN - 5508 if you write the maker

When detecting temperature by radiation method . . .

Quick-sighting optical system lets user select desired target easily, and then check the sharply-defined area which the Rayotube sees. Increased sharpness is also of benefit when radiation comes from end of closed tube.

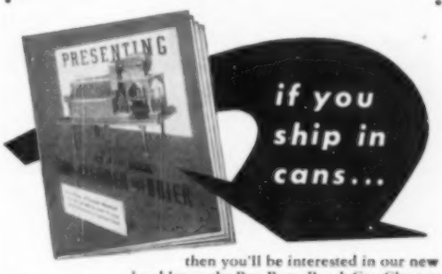
Hermetically sealed construction at lens, window, and leadwires keeps out dust and gases; guards accuracy even with high or rapidly changing Rayotube "body" temperatures.

Details on request. Leeds & Northrup Company, 4905 Stenton Avenue, Philadelphia 44, Penna.

LEEDS & NORTHRUP CO.

Jrl Ad N83(1b)

BREVITY—Identify by IEN - 5509 if you write the maker



if you ship in cans . . .

then you'll be interested in our new booklet on the Rex Roto-Brush Can Cleaner and Drier. This unique new machine is proving to be a remarkable cost cutter in a wide variety of canning operations. Here are some of the profitable advantages you get by installing a Rex Roto-Brush:

1. Improved Product Appearance
2. Simplified Labeling
3. Important Space Savings
4. Speeds up to 300 cans per minute

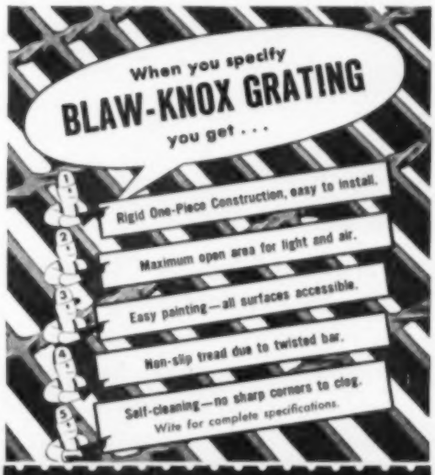
For all the details, just mail the coupon below.

REX FOOD PROCESSING EQUIPMENT

CHAIN BELT COMPANY 88-704
1675 W. Bruce Street, Milwaukee 4, Wis.
Please send me a copy of Bulletin 49-40.
NAME.....
COMPANY.....DEPT.....
STREET.....
CITY.....STATE.....

BREVITY—Identify by IEN - 5510 if you write the maker

When you specify **BLAW-KNOX GRATING** you get . . .



- Rigid One-Piece Construction, easy to install.
- Maximum open area for light and air.
- Easy painting—all surfaces accessible.
- Non-slip tread due to twisted bar.
- Self-cleaning—no sharp corners to clog.

Write for complete specifications.

BLAW-KNOX Electroforged GRATING AND STAIR TREADS

BLAW-KNOX DIVISION OF BLAW-KNOX COMPANY
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.

BREVITY—Identify by IEN - 5511 if you write the maker

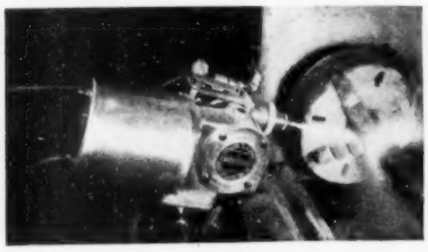
BREVITY—Identify by IEN - 5512 if you write the maker

Oil is fed by gravity from large reservoir through individually adjustable needle-valves and through copper or Neoprene tubing to various bearings. Features include: Instant Feed • Large Sight Feed Fittings • Dirt and Sediment Trap • Vibration and Leakproof Friction Needle-Valves • Tamper-proof Locking Ring • Solenoids available in standard and special voltages and cycles

WRITE FOR FREE BULLETIN NO. 33

TRICO FUSE MFG. CO. Milwaukee, Wis.

BREVITY—Identify by IEN - 5513 if you write the maker



Rebuild Worn Parts by *Metallizing*

Save time, money and critical parts by Metallizing with new Moguletric Gun. Adds metal to metal with fine atomization for perfect bond. Simplified, easy to use, engineered to give trouble-free service.

Also ideal for spraying corrosion-resistant metal coatings and for production work.

If you already have metallizing equipment, why not consider a trade-in now for the new Moguletric Gun.

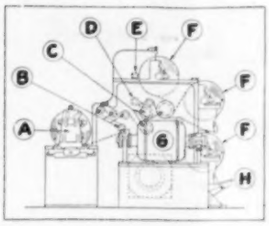
Write for new booklet containing complete information on equipment as well as production and maintenance applications.

METALLIZING COMPANY OF AMERICA
3520 W. Carroll Avenue • Chicago 24, Ill.

BREVITY—Identify by IEN - 5514 if you write the maker

CUTTING . . Slitter and rewinder for acetate film, speed to 800 fpm.

Source: CAMERON MACHINE CO.
65 Poplar St., Brooklyn 2, N. Y.



Camachine Triplex is a new hydraulically-operated slitter-rewinder for acetate plastic film. Feed is from a mill roll over idlers and driving rolls past adjustably positioned razor blades to rewind on three shafts that provide for positive roll separation and trim salvage. Maximum rewind roll diameter is 15 inches. The razor blade can be positioned to cut strips minimum at ½ in. in width.

The mill roll is positioned on the hydraulically-operated backstand A where constant tension is maintained on the web by a pump and hydraulic motor with the former driven by the pull of the web itself. The film feeds from the roll around idler rolls B to three pull rolls C. The movement carries the film under the razor blades D and over an idler roll to separate under the larger of the pull rolls and pass to the three rewind shafts F. A rewind follower roll at E is the actuating point at which speed of the differential rewind is actuated to assure positive rewinding independent of variations in the caliper of the film.

Speed varies inversely with the diameter of the rewound roll under control of the follower roll which actuates a cam as the top roll F increases in diameter. As a result there is no overheating that might damage the inner layers of the film in the rolls.

Hydraulic pressure for the pull rolls in the main drive and for the rewind shafts is supplied by the motor-driven pumping assembly at G. Speed to 800 fpm. is selected by operating the foot pedal H or a duplicate pedal at the rear.

BREVITY—Identify by IEN - 5515 if you write the maker

CLEANING . . Portable vacuum tool employs air jet to establish suction

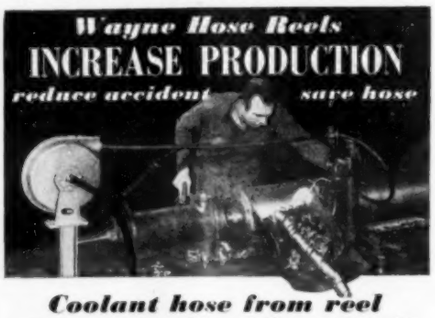
Source: SYNTRON CO.
410 Lexington Ave., Homer City, Pa.

Air pressure at 75 to 160 lb. enters this new portable vacuum tool near the base of the handle. It passes through a jet orifice to create suction and exhaust through the handle. The interior of the housing contains a dust bag connecting to the suction inlet to separate dust from the suction air. The latter passes through the bag wall to move outward through the jet orifice. The accumulated dust is retained for removal after opening the housing.

Vacuum rating is 95 in. of water at 100-lb. air pressure. Air consumption is 4½ cfm. at 100 pounds. The tool measures 5 in. in diameter, 18 in. in length and weighs 3 lb. with a 12-ft. length of $\frac{3}{16}$-in. hose and ¼-in. connection fittings. The housing is made of aluminum. The head is molded plastic.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5516 if you write the maker



Coolant hose from reel automatically follows tool

A USEFUL time-saving application of Wayne Hose Reels to supply cooling liquids in machine operations. Operator can give full attention to tool. No hose loops to cause accidents. Saves more hose in a short time than the cost. Compact, convenient, mounts anywhere.

MANY OTHER USES

Used as a bench reel . . . or overhead for hand air tools, providing suspension as well as air supply. Keeps tools off bench in convenient reach. Write today for bulletin.

THE WAYNE PUMP CO., FT. WAYNE, IND.
TORONTO, CAN. — *Hose Reel Division*

Wayne Industrial Hose Reels
FOR AIR, WATER, FLUID LUBRICANTS AND COOLANTS

BREVITY—Identify by IEN - 5517 if you write the maker

Precision plastics in small lots are now available at the lowest possible die mold cost. This new method is primarily for pilot runs in the production of 100 to 5000 small precision plastic moldings for experimental and other purposes where conventional type die molds would be prohibitive.

Present capacity: 2-ounce size, 2 x 4 x 6"

Your inquiries are invited.

DAYTON ROGERS *Manufacturing Company*
MINNEAPOLIS 7, MINNESOTA

BREVITY—Identify by IEN - 5518 if you write the maker

Window mop assembled with PLIOBOND bond between cellulose sponge and hardwood. PLIOBOND is available from conveniently located distributors—in small sized, easily-handled containers.

Want high strength, excellent resistance to water and alkali in an adhesive? use *Pliobond*

MAKERS of the O-Cel-O Window Mop shown here tried many adhesives to fasten the block of cellulose sponge to the lacquered wooden back of their product. Nearly every adhesive they tried failed under repeated exposure to water and alkaline cleaning solutions. But not PLIOBOND—Goodyear's rubber-like adhesive that bonds "anything to anything" with a long-lasting, flexible bond that's positive—quickly formed without primers, activators or cures, simply by applying to the surfaces to be bonded.

O-Cel-O Incorporated — in common with other manufacturers in a wide range of industries—reports PLIOBOND the most satisfactory adhesive they've used. Maybe here is your answer to quicker, easier, better product assemblies, too.

Write for full details to:
GOODYEAR, CHEMICAL DIVISION
AKRON 16, OHIO

GOODYEAR

Pliobond—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

BREVITY—Identify by IEN - 5520 if you write the maker

Fastening sheet metal to wood . . . to masonry?

For the better way . . . rely on P-K

Hardened SCREWNAILS

Screw strength and nail speed in one fastening — makes sense, doesn't it? Yes, and it saves time and materials, too. Parker-Kalon Screwnails are *hardened* . . . pierce metal that would bend ordinary nails. And they have over four times the holding power — that means fewer screwnails are needed to do the job.

Hardened MASONRY NAILS

You simply drive them with a hammer into a drilled hole of the proper size. Saves work, time and money. Parker-Kalon Hardened Masonry Nails can be applied more quickly than lead anchors and expansion bolts, hold securely and cost less. In softer masonry, these simpler, speedier fasteners can be driven without holes.

SEND FOR BOOKLET
Parker-Kalon Corp.
200 Varick St.
New York 14, N.Y.

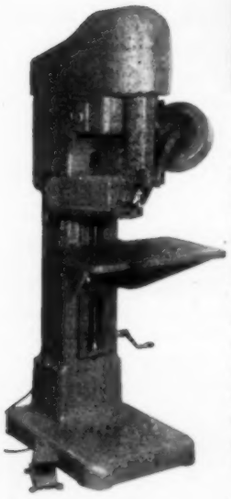
PARKER-KALON
FASTENING DEVICES
MAKERS OF THE ORIGINAL SELF-TAPPING SCREWS

BREVITY—Identify by IEN - 5521 if you write the maker

Cigrin **D.P.S. Comes Through**

WITH A SOLUTION TO ANOTHER PRESENT-DAY PRODUCTION PROBLEM—NUT DRIVING

No Need to Limp Along With Slow Hand-Operated Tools—
USE THIS REMARKABLE NEW
NUT DRIVER



Backed by a quarter century's experience in meeting production assembly problems, the Detroit Power Screwdriver Company replaces another outmoded method in bringing out this outstanding hopper-fed nut-driving machine . . . Amazing speed is attained, either automatically or semi-automatically, in driving nuts from 5/16" minimum to 1 1/16" maximum across flats . . . The manual handling of nuts is entirely eliminated except to load the hopper which feeds the nuts to the driving spindle. The machine is equally efficient for special nuts such as Jam, Castellated, Lock, etc.

Send for further details, also information about D.P.S. Power Screwdrivers, Motorized Hopper Units and Special Assembling Machines.

1926 Our 25th ANNIVERSARY 1951

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICH.

BREVITY—Identify by IEN - 5523 if you write the maker

VALVE . . Bellows operated unit with bulb for temperature control

Source: FULTON SYLPHON DIVISION
2451 W. Cumberland Ave., Knoxville 16, Tenn.

Series 999 designates new assembly of bellows-operated valve, connecting tube and temperature-sensitive bulb for temperature control or internal-combustion engines, storage water heaters, bottle washers, process equipment. Temperature range is through 40 deg. starting upward from 40 to 290 degrees. The range is 60 and 80 deg. F. starting upward from 40 to 300 deg. F. Sizes are from ½ to 4 in. at the valve. Pressure is maximum at 250 lb. on sizes to 1¼ inches. It is 40 lb. on the largest 4-in. unit.

The valve is made with a press-formed frame of stainless steel to minimize heat conduction from the body to the regulator head. The bellows in the head is the company's manufacture. The bulb is standard in copper with brass fittings. It can be specified in lead, steel, stainless steel and Monel.

BREVITY—Identify by IEN - 5524 if you write the maker

ISOLATING . . Self-adhesive felt in strips and discs for shock insulation

Source: J. B. DAWN PRODUCTS
3903-7 W. 64th Pl., Chicago 29, Ill.

Washers and shapes to special order

Feltape and Feltdots are new forms of felt measuring ½ to 6 in. in width or ¼ and ½ in. in diameter in stock sizes. The felt is about 1/16 in. in thickness. It is faced on one side with a pressure-sensitive adhesive for application on ceramics, glass, plastic, metal, wood. The felt is dark brown in color.

BREVITY—Identify by IEN - 5525 if you write the maker

COUNTING . . Wheel type unit rolls to count distance in feet

Source: ROLATAPE INC.
1413-17 14th St., Santa Monica, Calif.

Model 200 with a wheel 2 ft. in circumference and Model 400 with a wheel that measures 4 ft. are two new units in the company's line of length-counting units. A third larger assembly employs a 6-ft. wheel. In each case the wheel drives a counter that registers distance traveled as the wheel rolls over a smooth or uneven surface. The smaller of the two units counts to 100 ft., then rings a bell and repeats. The Model 400 registers to 100,000 ft. and then repeats. Weights are 2¾ and 5 pounds. List prices are $17.50 and $44.50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5526 if you write the maker

RUEMELIN *Blast Cleaning* **CABINETS**

RUEMELIN Blast Cabinets are practical for a great variety of cleaning operations. They are extensively used to remove heat-treating scale and to clean sub-assemblies in metalworking shops, foundries, aircraft factories, etc. Built in many sizes. Furnished complete with dust control equipment. Write for Bulletin 32-B.

RUEMELIN MANUFACTURING CO.
3863 N. PALMER ST. • MILWAUKEE 12, WIS., U. S. A.
Manufacturers and Engineers SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS

BREVITY—Identify by IEN - 5527 if you write the maker

How to save Labor and Money by Centralizing Lubrication

FOR more than 20 years, Farval has been saving manpower and money for users. Through efficient, dependable lubrication of machines and industrial equipment of all kinds, Farval saves 4 ways: It saves oiling labor, it saves lubricant, it reduces bearing expense, it eliminates down time.

The Farval System is a positive mechanical method of delivering oil or grease under pressure to a group of bearings from one Central Station, in exact quantities, as often as desired. It consists of a central pumping unit, two main supply lines and a measuring valve for each bearing.

Bulletin 25 gives you the facts and figures to apply to your own lubrication problems. The Farval Corporation, 3258 East 80th St., Cleveland 4, Ohio.

Write for *FREE* Bulletin 25

FARVAL
CENTRALIZED SYSTEMS OF LUBRICATION

BREVITY—Identify by IEN - 5528 if you write the maker

Calling all users of Speed Reducers!

Get the new **Cleveland Book *FREE***

Bulletin 130 gives rating tables, dimensions and other data you need in selecting the right sizes in standard worm-gear speed reducers. Ask for your copy.

New bulletins on other types of Cleveland worm gear drives and worm-gear sets also available. Outline your needs. The Cleveland Worm & Gear Co., 3258 E. 80th St., Cleveland 4, Ohio.

CLEVELAND Worm Gear *Speed Reducers*

BREVITY—Identify by IEN - 5529 if you write the maker

STOP DUSTS

. . . from Any Dust Source
IMMEDIATELY . . . WITH DUSTKOP

Available from Stock . . . 22 Standard Models Pretested . . . 300 to 10,050 cfm.

for

Surface, Tool, Cutter Grinders; Polishers and Buffers; Abrasive Belts and Discs; Woodworking and Plastic Industry Equipment . . . DUSTKOPS collect almost *all* kinds of industrial dusts.

Ask for Catalog 605-2. Describe dust problem for recommendation by return mail—no obligation.

Aget-Detroit Co., 401 Main St., Ann Arbor, Mich.

That's a Model 1150; takes all the dust from two 18" wheels. Same unit would handle dust from 3 surface grinders.

BREVITY—Identify by IEN - 5530 if you write the maker

IF YOU'RE DRILLING, CUTTING AND CHIPPING IN CONCRETE AND MASONRY

SYNTRON

DEPENDABLE

ELECTRIC HAMMERS

Will Save You Money and Time!

Drilling anchor bolt holes—cutting and chipping openings thru walls and floors—channelling for conduit—scaling rust and old paint from metal surfaces—and on dozens of other jobs.

They'll pay for themselves time and again.

Operate from 110 volt A.C. light current.

Write for illustrated literature.

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 5531 if you write the maker

"Play Safe"—stop your cranes with Wagner Crane Bridge Brakes

Wagner Hydraulic Brakes provide even the heaviest cranes with controlled deceleration and smooth, precise stops . . . as accurate and easy as braking an automobile . . . and just as safe.

If your cranes are not equipped with Wagner Brakes, we can show you how simple it is to install a modern hydraulic system. If you now have old-style Wagner Brakes, your system can be quickly modernized with our complete conversion kits. Bulletin IU-40 gives complete information—write for your copy.

Only Wagner Hydraulic Crane Bridge Brakes give you all these features:

- Two Types—Four Sizes—Cover the Field
- New Remote Control Bleeder
- New Self-Centering Device
- New Systems easy to install
- Old Systems easily modernized

Wagner Electric Corporation 1891 1951

6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

BI-1A

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

BREVITY—Identify by IEN - 5532 if you write the maker

SIMPLE LOW-COST BIN-FLO AERATOR UNITS KEEP BULK MATERIALS MOVING

Finely ground dry materials in storage often lose air content and pack or bridge, thus losing capacity to flow.

BIN-FLO units diffuse low-pressure air through such materials, preventing packing and maintaining or restoring natural flow.

Easily installed in chutes, bins, hoppers, etc. Can be automatically controlled by BIN-DICATOR bin level indicators. Low first cost; low operating cost. Used in many industries. Fully guaranteed. Send for folder.

BIN-DICATOR
Bin Level Indicator

BIN-DICATOR—"The Eyes of the Bin" watches material levels automatically and reports to central control point. Send for free book.

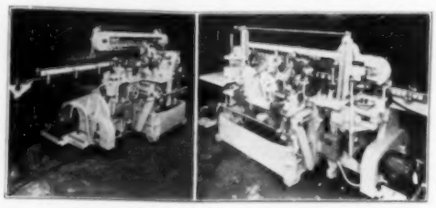
NEW 20-PAGE BOOK FREE

THE BIN-DICATOR CO.
13946-B Kercheval • Detroit 15, Mich.

BREVITY—Identify by IEN - 5533 if you write the maker

MARKING . . Automatic machines apply adhesive labels on containers

Source: PNEUMATIC SCALE CORP.
71-73 Newport Ave., North Quincy, Mass.



Direc-Transfer designates a new line of labeling machines. A 6-in. Simplex assembly is shown to the left with a 4-in. Duplex machine to the right. The former operates at average speed of 60 containers per min. applying labels to one side of the containers as they move through in straight-line progression. The 4-in. Duplex machine applies labels both front and back at speeds ranging to 120 per minute.

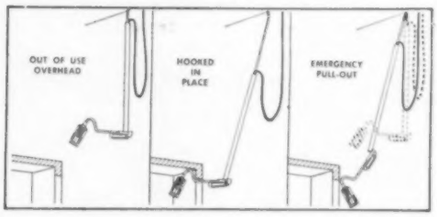
The labeling mechanism consists primarily of a three-station indexing turret equipped with three suction pads. These pads pick labels from the bottom of a supply stack positioned at 30 deg. from vertical as the turret revolves counter-clockwise. The labels are carried into contact with a glue-transfer roll, then are traveled through the second station to provide an interval for "tempering." They are pressed directly against the side of the container at the third station. No transfer mechanism is employed or required.

A gear pump maintains constant mixing and circulation for the adhesive which it delivers between two bronze rollers positioned to obtain the desired film thickness. The complete label mechanism plus the two wiping stations beside it are mounted on an adjustable table for quick change-over from one container or label size to another.

BREVITY—Identify by IEN - 5534 if you write the maker

LIGHTING . . Telescope fixture suspends from overhead and pulls down

Source: PYLE-NATIONAL CO.
1348 N. Kostner Ave., Chicago 51, Ill.



Anchorlite is a new lighting fixture with a spring-retracted 3-ft. telescoping action and means to suspend from overhead at a stationary bracket or in sliding arrangement on a messenger wire. The lamp socket is assembled on a hinged arm at the bottom and this arm is shaped to hook under and hold in place at a desired point of application as illustrated.

A mercury switch can be specified in the extension cord from the top of the unit so the light will be turned on when the fixture is in place and will be turned off when it is retracted upward and no longer in use.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN - 5535 if you write the maker

CUT YOUR COSTS ON REPEATING-PROCESSES

Use General Electric Process Timers For Increased Efficiency, Big Savings

TYPE TSA-14 PROCESS TIMER
Used for circuits requiring repeating ON-OFF control

WHERE YOU HAVE PROCESSES or machines which operate on repetitive cycles, depend on the G-E Type TSA-14 process timer for automatic on-off control. Here are three important ways you benefit:

1. Reduce waste.
2. Assure uniform operation.
3. Cut production costs by freeing workers to handle other jobs.

TSA-14 TIMER with timing cycles from 10 seconds to 8 hours can be used for control of pumps, agitators, mixing valves, blowers, exhaust fans, ovens, filter cleaning, and many other applications.

WEATHER-RESISTANT CASE safely houses the time-proved Telechron* motor which is designed to give you years of accurate operation. Low installation and maintenance costs further increase your savings.

Order from your local G-E representative. Or write for Bulletin GEC-525, Section 603-119, General Electric, Schenectady 5, N. Y.

*Registered Trade Mark, Telechron, Inc.

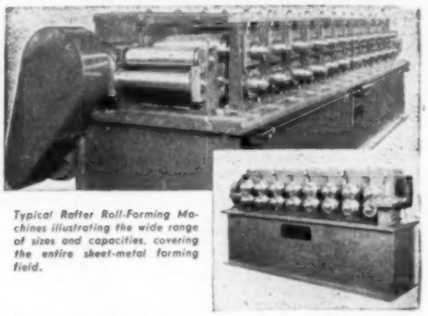
GEA-119

GENERAL ELECTRIC

BREVITY—Identify by IEN - 5536 if you write the maker

RAFTER COLD METAL ROLL-FORMING MACHINES

Correct Design for Maximum Efficiency



Typical Rafter Roll-Forming Machines illustrating the wide range of sizes and capacities, covering the entire sheet-metal forming field.

Patented balanced gear drive mounted on roller bearings distributes power efficiently to each pair of rolls . . . Gear ratio is a continuous reduction from drive shaft to roll shaft, quiet, efficient and compact. This drive consumes less power than any other type . . . Exclusive design permits greatest vertical adjustment of the upper roll spindles, without the aid of square gearing or small complicated gears . . . Design permits quickest and most accurate change of rolls possible. Shafts always remain parallel. Adjusting screws connect front and rear bearings . . . Low power consumption, lasting accuracy, longer roll life, and higher output are made possible by these and many other features.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street • Belleville 9, N. J.
GANG SLITTERS and PRESS BRAKE DIES

BREVITY—Identify by IEN - 5537 if you write the maker

If you have any of these problems in your connections

✓ VIBRATION
✓ MISALIGNMENT
✓ FLEXATION
✓ EXPANSION and CONTRACTION

solve them with CMH FLEXIBLE METAL HOSE

Scores of troublesome connection problems where the above conditions exist are effectively solved with CMH Flexible Metal Hose. Manufactured in a variety of types and metals, CMH Flexible Metal Hose is available for pressures from vacuum to 12,000 psi (burst); temperatures from sub-zero to 1600° F. Write for literature, mentioning the types of connection problems you have.

CHICAGO METAL HOSE CORPORATION
1333 S. Third Ave., Maywood, Illinois
Manufacturers of Flexible Metal Hose, Metallic Bellows and Bellows Assemblies and Expansion Joints for Piping

CMH **ONE DEPENDABLE SOURCE** for every flexible metal hose requirement

BREVITY—Identify by IEN - 5538 if you write the maker

TAKES THE POUNDING OF MILLIONS OF FEET!

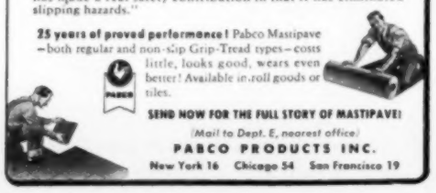
PABCO MASTIPAVE

AMERICA'S No. 1 LOW COST LONG-LIFE FLOOR COVERING

Here's what the ILLINOIS CENTRAL RAILROAD has to say about PABCO MASTIPAVE . . . "Two years ago we covered the wooden flooring leading to the train platforms in our Randolph Street suburban passenger station with Grip-Tread Mastipave. More than 50 million pairs of feet have walked over this flooring and it is still giving excellent service.

"Before using this covering we had a problem with passengers slipping on the wooden flooring when it became wet. Mastipave has made a real safety contribution in that it has eliminated slipping hazards."

25 years of proved performance! Pabco Mastipave—both regular and non-slip Grip-Tread types—costs little, looks good, wears even better! Available in roll goods or tiles.



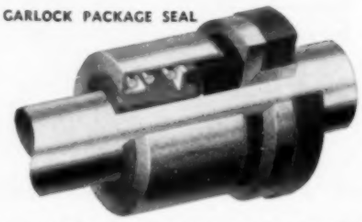
SEND NOW FOR THE FULL STORY OF MASTIPAVE!

(Mail to Dept. E, nearest office)

PABCO PRODUCTS INC.
New York 16 Chicago 54 San Francisco 19

BREVITY—Identify by IEN - 5539 if you write the maker

GARLOCK PACKAGE SEAL



GARLOCK MECHANICAL SEALS for ROTARY SHAFTS

GARLOCK Mechanical Seals have been designed specifically for use on rotary shafts of pumps or other equipment where *leakless* operation is required. They have established outstanding service records on rotary shafts of equipment operating at high speeds and high pressures and, in many cases, handling corrosive or inflammable liquids. Garlock manufactures these precision-made seals in many standard and special designs from a wide range of high quality materials. For complete information, write for our new Mechanical Seal booklet.

THE GARLOCK PACKING COMPANY
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada, Ltd., Montreal, Que.

GARLOCK

BREVITY—Identify by IEN - 5540 if you write the maker

CHROMALOX *Electric* STRIP HEATERS

For fast, dependable, on-the-spot heat

Quick, Easy Installation—Economical Operation

Chromalox Electric Strip Heaters are modern industry's rugged tool for putting heat wherever it is needed—as in dies, tanks, pipelines, ovens and countless other spots. Chromalox Units can be clamped to any flat or curved surface. They can be tailored to your needs, anywhere a little or a lot of dependable heat is wanted. Easily installed, often with existing power lines, they produce the exact amount of heat required. Lengths from 4" to 96", widths from 1" to 2½". See how multi-purpose Chromalox Electric Strip Heaters fit into your plant operations.

Write for Fact Packed CATALOG 50

IB-11

It's yours without obligation.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.

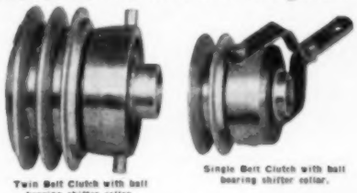
See Chromalox Electric Heaters Advertisement, Page 5

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

BREVITY—Identify by IEN - 5541 if you write the maker

"ball-lok"
V-Belt Clutch

Clutch News to Interest Shop Superintendents and Machine Designers!



Twin Belt Clutch with ball bearing shifter collar.

Single Belt Clutch with ball bearing shifter collar.

Single and multi-belt clutches with ball bearing shifter collars are being widely adapted to driving equipment with a high rate of off-and-on engagements per hour. "Locking" or "non-locking" types available. The "Ball-lok" V-Belt Clutch has become the practical solution to such intermittent duty in many industrial machines. Knitting, winding, paper conversion and packaging machines are just a few of the typical units on which "Ball-loks" are serving effectively. WRITE FOR OTHER "BALL-LOK" MODIFICATIONS TO FIT UNUSUAL DRIVE PROBLEMS.

"BALL-LOK" CLUTCHES SOLD COAST-TO-COAST. RECOGNIZED AS STANDARD EQUIPMENT IN POWER TRANSMISSION FIELD.

Write for your copy of the Illustrated "V-Belt Roundup"

V-BELT CLUTCH CO. 418 N. Western Avenue Los Angeles 4, California

BREVITY—Identify by IEN - 5542 if you write the maker

ELECTRONIC PARTS . . Tape wound core to store information, amplify signals

Source: MAGNETICS INC.
Box 308-A, Butler, Pa.

Eight turns of 0.00025 in. Armco "48 Alloy" are wound on a ceramic bobbin measuring ⅛ in. in diameter in the assembly of this new tape-wound core. The unit, as shown, is representative of cores the company is prepared to wind on any size bobbin and with any number of turns for given purposes. The bobbin supports the thin tape and protects it from the strain of winding with copper wire in the final coil assembly.

Applications include storing information that can be transmitted in the form of electric impulses and amplification of very weak impulses stored on a magnetic drum. The ultra-thin material permits the use of ultra-high frequencies for fast operation of equipment such as computers.

BREVITY—Identify by IEN - 5543 if you write the maker

SEALING . . Self adhesive tape is waterproof for use on packages

Source: TECHNICAL TAPE CORP.
Harlem River & 177th St., New York 53, N. Y.

Packaged in case lots

No. 90 is a new cloth-backed self-adhesive tape primarily to seal packages for long-term storage or overseas shipment. It meets Government Specification JAN P-127 and ANT 12-A. The tape contains Geon polyvinyl compound. It is available in black, olive drab and white, in widths from ¼ to 4 in. and in 60-yd. rolls. Warp tensile strength is 50 lb. per in. of width. The adhesive is non-staining.

BREVITY—Identify by IEN - 5544 if you write the maker

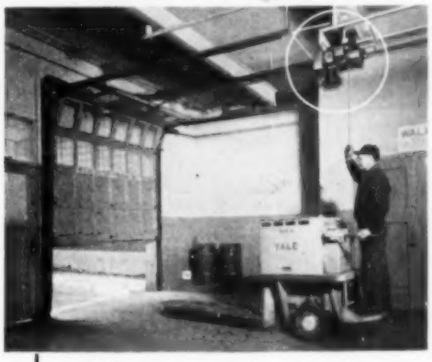
CONVEYING . . Portable belt unit to handle stampings from under a press

Source: E. W. BUSCHMAN CO.
4447 Clifton Ave., Dept. 21-A, Cincinnati 32, Ohio

Press-Vator is a new portable cleat-equipped belt conveyor available in 6 and 8-ft. lengths to handle stampings as they are made at a punch press. The belt measures 12 in. in width. drive is by a ⅓-hp. geared-head motor for an operating speed of 72 fpm. Minimum loading height is 7 inches. Maximum unloading height is 61½ inches. Maximum inclination is 45 degrees.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5545 if you write the maker



SAVE TIME and REDUCE EXPENSE

Material moves more quickly in the plant . . . delays for opening and closing doors are eliminated . . . expense of door maintenance is substantially reduced.

Barcol OVERdoors with Electric Operators

An improved overhead-type door with an Electric Door Operator designed and built to operate efficiently with long life and low maintenance. Call your Barber-Colman representative for full details.

FACTORY TRAINED SALES & SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARCOL

BARBER-COLMAN COMPANY, 114 Mill St., Rockford, Ill.

BREVITY—Identify by IEN - 5546 if you write the maker

Let "PACKAGE" show you NEW SAVINGS

The Model FA—most widely used wrapping machine in the world

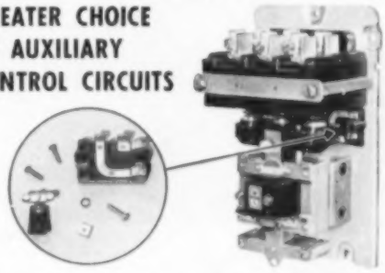
Whether your business is cigarettes, candy, drug products, soap, foodstuffs—anything in a package—we have a machine designed to wrap your product better, faster and at surprisingly low cost. And if your goods call for a special type of package, our engineering staff can adapt a machine to your exact needs.

Most "Package" models require only one operator and are quickly adjusted to handle packages of varying dimensions. Their high speeds save valuable man-hours. Write for the informative leaflet "Packages that Sell."

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK · CHICAGO · BOSTON · CLEVELAND · ATLANTA · DALLAS
DENVER · LOS ANGELES · SAN FRANCISCO · SEATTLE · TORONTO · MEXICO, D.F.

BREVITY—Identify by IEN - 5547 if you write the maker

GREATER CHOICE OF AUXILIARY CONTROL CIRCUITS



When you use Ward Leonard 4110 magnetic across-the-line starters, you have greater opportunity to arrange for auxiliary control circuits.

Where, before, only normally-open or normally-closed auxiliary contacts could be *added* to the standard normally-open auxiliary contacts (provided for maintaining purposes)—now you have your choice of open or closed *or double throw* auxiliary contacts. Double throw contacts can also be furnished for maintaining purposes.

For low contact resistance and long life, these contacts are silver-to-silver. Front-connected terminals are easy to get at for control circuit wiring.

Write for Bulletin 4110. WARD LEONARD ELECTRIC COMPANY, 53 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls
RESISTORS · RHEOSTATS · RELAYS · CONTROL DEVICES

BREVITY—Identify by IEN - 5548 if you write the maker

CHAMPION *Lamp* COSTS

—AS AGAINST LIGHTING COSTS—

AVERAGE ABOUT **10%**

and Champion Lamps

HELP YOU GET THE MOST VALUE FROM THE OTHER

90% OF YOUR LIGHTING DOLLAR

IT PAYS TO BUY *Champions!*

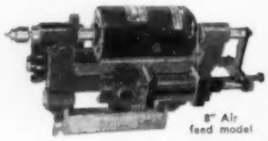
Ask Your Distributor

CHAMPION LAMP WORKS
Lynn, Massachusetts

BREVITY—Identify by IEN - 5549 if you write the maker

Precision Hi-Speed Drilling in Metal, Wood, Plastic or Composition—.004"-.156".

Check These 9 Features



8" Air feed model

- Fingertip variable speed
- Fast approach air feed
- Hydraulic feed control
- Electric or manual controls
- Deep hole drill cleaning
- Sensitive precision spindle
- 1000-10,000, 2500-15,000 RPM
- Can be mounted at any angle, with hand or power feed
- Price 8" model, hand feed, from $130.00. Air feed model (as shown) from $238.50.

Write for helpful bulletin

The ELECTRO-MECHANO CO.
267 E. ERIE ST., MILWAUKEE 2, WIS.

BREVITY—Identify by IEN - 5550 if you write the maker

LOWER THE BOOM ON COSTS
SET RIVETS FAST
2 at a time with the
Chicago "214"

• With every press on the foot pedal the Model 214 Chicago Double Rivet Setter automatically feeds, inserts and clinches *two* rivets. 14-inch throat accommodates large assemblies. Handles 5/64" or smaller steel tubular rivets, ¾" or less in length. Quick Change Rotary Type Hoppers and Raceways permit a 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to its versatility. For help with your specific fastening problem...send a sample of your problem assembly (or a blue print) for free fastening analysis.

FREE CATALOG contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9602 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

BREVITY—Identify by IEN - 5551 if you write the maker

Send Coupon Today for Your FREE Copy

"WHY IT PAYS TO ANCHOR YOUR MACHINES WITH *UNISORB*®"

Here's the book that tells you how to

- Avoid destructive floor-drilling with UNISORB machine anchoring...the modern way that needs no bolts, no lag screws.
- Eliminate 60%-85% transmitted machine noise and vibration.
- Achieve a safe, dependable machine mounting that lasts for years and years *with no maintenance.*
- Save time, expense and confusion when installing new machinery or repositioning present machinery.

The FELTERS Co.
210-1 SOUTH ST.
BOSTON 11, MASS.

Gentlemen:
Please send my free copy of "Why It Pays to Anchor Your Machines with UNISORB."

NAME .....
COMPANY ..... TITLE .....
STREET .....
CITY & STATE .....

BREVITY—Identify by IEN - 5552 if you write the maker

FASTENING . . Steel anchor pin driven by cartridge in portable tool

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.

New design of the Velocity-PoweR portable driving tool, previously described IEN-7907-50, clamps around a pipe and drives a steel pin through the pipe and an internal coupling core. Known as the Interlock Pinner, the new assembly applies particularly on railroad signal pipe to pin the pipe to the internal steel core as required by the Interstate Commerce Commission. When the tool is not in use in this special application, its clamping head can be removed for anchor-pin driving as in the original design. The high-pressure gas, produced by firing the cartridge inside the barrel, exerts a control force of several thousand pounds upon the pin for the essentially instantaneous driving action against the steel pin.

BREVITY—Identify by IEN - 5553 if you write the maker

STATIC ELIMINATOR . . Electronic for equipment handling plastic films

Source: HILKER PRODUCTS CORP.
682 Avenue of Americas, New York 10, N. Y.

Lists at about $125 to $350 single to triple

Static V-H-V is a new static eliminator in which a discharge bar is energized by an electronic pulse generator. The bar is installed in any location on plastic-film equipment where static is a problem and the film is passed over or under it in progress through the equipment. The pulse generator is a high-frequency high-voltage unit assembled in a housing measuring 12 by 12 by 6 inches. Operator protection is afforded by the fact that the bar instantly detunes and cuts the circuit upon any direct contact so no shock can be received.

BREVITY—Identify by IEN - 5554 if you write the maker

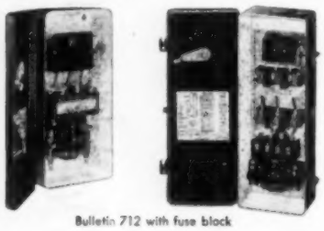
BRAZING . . Silver wire ring supplied in coils in specified sizes

Source: LUCAS-MILHAUPT ENGINEERING CO.
5049-53 S. Lake Drive, Cudahy, Wis.

Silver brazing alloy is now available in flat-wire form supplied in coils in which individual rings cannot tangle. As a ring is needed it is broken from the coil at the point of notching to leave the balance of the coil intact. The rings are available in specified sections and diameters in Sil-Fos and Easy-Flo.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5555 if you write the maker



Bulletin 712 with unfused disconnect switch

Bulletin 712 with fuse block

QUALITY Combination Starters that Reduce Your Installation Costs

In applications where the Electrical Code specifies that a manual disconnect unit must be used . . . ahead of your automatic starters . . . don't use TWO separate units. Install an Allen-Bradley Bulletin 712 Combination Starter. It combines both units in one handy cabinet and makes a neater, compact, up-to-date installation. Available in many types of special purpose enclosures.

Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wis.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

BREVITY—Identify by IEN - 5556 if you write the maker

RECORDS SHOW—

How a manufacturer cut costs with Goulds stainless steel pumps

Here's how an alert manufacturer cut his pumping costs by ¾. The pumps he had handling a highly corrosive liquid cost $3250. When they wore out, he replaced them with Goulds Stainless Steel Centrifugals for $826. The Goulds pumps have already lasted twice as long . . . and they're still going strong. Advanced design, simple construction, and extra-protected, interchangeable parts make these savings possible. For complete information write Pump Headquarters, Seneca Falls, N. Y.

Ask for Bulletin 725.3.

Goulds PUMPS INC.
Seneca Falls
New York

BREVITY—Identify by IEN - 5557 if you write the maker

"We like steel strapped shipments...

they're more compact—easier to handle and stow"...

says Mr. J. D. Boylan, Director of Cargo Sales, AMERICAN AIRLINES

Mr. Boylan, like thousands of persons engaged in shipping products safely throughout the world, knows the advantages that steel strapping offers.

"It's our job to see that shipments arrive at their destination on schedule . . . and in good condition. Steel Strapping helps us do this." With Steel Strapping, lighter, less expensive containers can be used—saving space and weight. And loading—unloading is faster, easier when cartons are strapped into conveniently handled units.

In essential industries and on defense production, Steel Strapping is conserving time, labor and equipment. When the present emergency is over you can make these savings on your shipments. The Stanley Works, Steel Strapping Division, New Britain, Conn. Offices in principal cities.

STEEL STRAPPING AND CAR BANDING SYSTEMS

STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

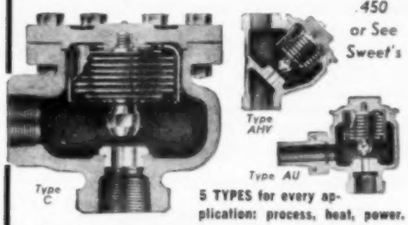
BREVITY—Identify by IEN - 5559 If you write the maker

HEATS UP DRYERS IN 3/4 LESS TIME

with Nicholson Steam Traps

A West Coast processor reports that, after switching to Nicholson traps, they get an entire kiln up to heat in 1 hour, against periods up to 24 previously. Reasons for Nicholson's faster heat transfer: operate on lowest temperature differential; 2 to 6 times average drainage capacity; maximum air venting. Sizes, 1/4" to 2"; press. to 225 lbs.

BULL. 450 or See Sweet's



5 TYPES for every application: process, heat, power.

W. H. NICHOLSON & CO. 159 OREGON STREET WILKES-BARRE, PA.

Sales and Engineering Offices in 53 Principal Cities

BREVITY—Identify by IEN - 5560 If you write the maker

INVESTIGATE STACON CHEKCHART your Temperature CONTROL INVESTMENT

Before you select a Temperature Regulator, compare low-cost Stacon with the rest. No other regulator has as many features or offers as many advantages as a Farris Stacon.

PROVE IT!

Make this Chekchart Test

	Farris Stacon	Air Operated	Self Operated
• Dirt Proof — Hermetically Sealed?	Yes		
• Extreme Accuracy?	±1°		
• Packing or Glands to Leak?	No		
• Drop-tight Shut off?	Yes		
• Vapor-stream Energized Super Power Pilot?	Yes		
• Supervision—Maintenance?	None		

Write for Stacon Bulletin 50-1000. It contains complete information on the most sensitive, accurate, economical temperature regulator available . . . anywhere.

Farris Stacon Corp.

432 COMMERCIAL AVENUE • PALISADES PARK, N. J.

BREVITY—Identify by IEN - 5561 If you write the maker

PHILADELPHIA FOR

All Types . . . All Sizes . . . All Ratios in . . .

SPEED REDUCERS

We design and make every type of speed reducer . . . Worm, Herringbone, Spiral-Bevel, Herringbone, Spur, Planetary, etc. This is important because . . . 1. Assures unbiased recommendations . . . 2. Permits filling *all* needs from one source . . . 3. Places *responsibility* for satisfactory operation upon the shoulders of one *manufacturer*.

Complete catalogs on any type Reducer sent upon request on your Business Letterhead.

PHILADELPHIA GEAR WORKS, Inc.

Industrial Gears and Speed Reducers

Erie Avenue and G Street Philadelphia 34, Pa.

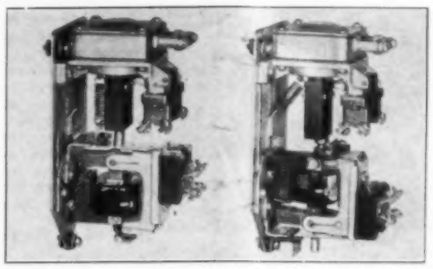
NEW YORK • PITTSBURGH • CHICAGO • HOUSTON

In Canada: William and J. G. Greey, Limited, Toronto

BREVITY—Identify by IEN - 5562 If you write the maker

TIMING . . Pneumatic relay delays operation of circuit contacts

Source: SQUARE D CO.
4039-43 N. Richards St., Milwaukee 12, Wis.



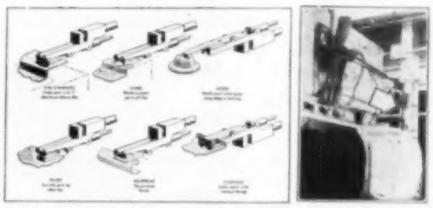
New design of the company's Type-R Class-9050 ac. relay includes a new invertible solenoid. Type RO-9E is assembled as shown to the left in the illustration so the contacts will operate with delay after the solenoid is energized. The illustration to the right shows Type RO-9D with contact operation delayed after the solenoid is de-energized. In both assemblies the delay interval is adjustable between 0.2 sec. and 3 minutes. Operating accuracy is within 10 per cent.

Delay control centers at a diaphragm assembly in a chamber at the top of the relay and a valve communicating to a compartment above the diaphragm. Upward movement of the diaphragm to start a delay interval is against the action of a spring but is free so far as air movement above the diaphragm is concerned. The spring takes over at the top of the stroke to return the relay downward, but this movement is restricted by the needle valve. At a predetermined point in the downward movement an arm actuates a sensitive switch to energize or de-energize the control circuit. The contacts are snap-action units made of silver and have pilot rating to 600-volt ac. or dc. The operating coil can be specified to 600 volts on 25 to 60-cycle ac. to suit the installation.

BREVITY—Identify by IEN - 5563 If you write the maker

PRESS TOOLS . . Pneumatic unloader removes completed work from a press

Source: SAHLIN ENGINEERING CO.
265-69 Ferndale St., Birmingham, Mich.



Six jaw designs have been added to the company's Iron-Hand pneumatic press unloader to meet a range of work-handling conditions for the equipment previously described IEN-9345-50. Each design is for a particular purpose as shown in the illustration. The jaw assemblies are interchangeable as units on the main air-operated mechanism which assembles at the front or rear of a press.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5564 If you write the maker

The "One Best Way" for Many Materials-Handling Jobs

MORRIS *Centrifugal* **SLURRY PUMPS**

Coal mines, cement mills, glass works, stone-cutting plants, ore-treating plants, and a large array of chemical plants have found Morris Centrifugal Slurry Pumps to be the "one best" solution to many of their difficult materials-handling problems. Particle size is the only limiting factor, and this can be much larger than you think. Even thick sludges and fluids with viscosities as high as 7,000 SSU flow smoothly through the pump, insuring long and economical life of the wearing parts.

Lower Cost Per Ton or Million Gallons

Power, labor and maintenance costs are outstandingly low when figured on a year-in-year-out basis. The accuracy of the complete Morris assembly, the smooth, vibration-free operation, and the remarkable wearability of parts, all give maximum value for the dollar invested. Ask our engineers about your special problems, or write for Bulletin No. 181.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Branch Offices in Principal Cities

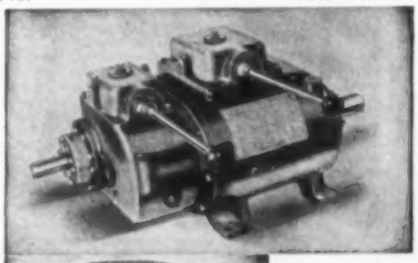
MORRIS CENTRIFUGAL PUMPS

BREVITY—Identify by IEN - 5565 If you write the maker

WESTERN "SUPER" with 8 SPEED CHANGES

For use on large lathes, boring mills, chemical and rubber machinery, etc., and used for replacement of gear boxes on large radial drills, Bullard vertical turret lathes, etc. CAPACITY 30 HP.

In geometric progression of 1.29 (total reduction of 6:1)



(left) "900 B series" has a 5 hp. capacity with input speed of 900 r.p.m . . . 4 gear changes are available through one-shift-lever (automotive type). Ratios. 1:1, 2:1, 3:1, 4:1.

On special machines where transmissions are required — a standard WESTERN model can often be dapted to give the required spindle speeds . . . and even when modifications are made, a WESTERN for the basis of the design greatly simplifies the problem. Similar transmissions of 10 hp. capacity are available . . . we can *supply the necessary V-belts, sheaves, output pulleys and motors from stock.*

up to 50 h. p. For Measuring Lathes, Milling Machines, Shapers, Turret Lathes, Reams, Drills, Slotters, Hot Cutters, Gear Cutters, Disc Grinders, Boring Mills, etc.

WESTERN TRANSMISSIONS

WESTERN MANUFACTURING CO. 4205 BELLEVUE . DETROIT, MICHIGAN

BREVITY—Identify by IEN - 5566 If you write the maker

WE CUT THE LENGTH BUT NOT THE STRENGTH

IT'S THE YALE WORKSAVER "STUBBY"

RIDE IT OR WALK IT

Small enough to go where bigger trucks can't—so maneuverable it can turn in its own length—yet strong enough to carry loads of 2,000 to 6,000 lbs! That's "STUBBY."

It speeds up your materials handling on hard-to-get-at jobs, gives you more storage room, saves aisle space.

A powerful electric drive unit and a rugged welded steel frame keep this truck on the job for years with a minimum of "down time." It's remarkably safe and easy to operate, too. Controls for hoisting, positive action safety brakes, and two-speed drive in either direction are all built into the steering handle.

Our representative will be glad to show you how all of these advantages add up to real savings of production time and money for you. *Just send us the coupon today.*

THE YALE & TOWNE MANUFACTURING COMPANY, PHILADELPHIA 15, PA.

MAIL THIS COUPON NOW

The Yale and Towne Manufacturing Co. (Dept. No. 366)
Roosevelt Boulevard & Haldeman Avenue
Philadelphia 15, Pa.

I am interested in cutting my materials handling costs.

_____ Please have your local representative call on me.

_____ Please send me FREE detailed literature.

Name_____
Company_____
Street_____
City_____ State_____

BREVITY—Identify by IEN - 5568 if you write the maker

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All-metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type — comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-50.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

BREVITY—Identify by IEN - 5569 if you write the maker

SEE HOW GAST explosion-proof rotary AIR MOTORS helped solve this problem!

See our CATALOG in SWEET'S FILE

Gast Application Ideas Booklet—showing 26 design problems solved — sent upon request.

PROBLEM: Specify a motor to drive liquid pump at variable speeds, for Bede Circulating Paint Heater. (A unit for faster, uniform hot finish application.)

SOLUTION: A Gast Rotary Air Motor, running below 500 r.p.m., drives pump at 150 r.p.m. Uses less than 30 p.s.i. air pressure.

RESULT: Power that's economical, dependable, safe. With explosion-proof Gast Motors, entire unit was approved by Underwriters' Laboratories.

Your problem may be entirely different — yet the unique advantages of Gast Rotaries may offer just what your product requires. In sizes from 1/20 to 3 h.p., Gast Air Motors are amazingly compact and light in weight. And overloads can't burn them out!

Write Gast, describing your original equipment application. We'll send full details. "Air may be your Answer!"

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY — AIR MOTORS - COMPRESSORS - VACUUM PUMPS
(TO THREE H.P.) (TO 30 LBS.) (TO 28 INCHES)
GAST MANUFACTURING CORP., 110 Hinkley St., Benton Harbor, Mich.

BREVITY—Identify by IEN - 5570 if you write the maker

TM CHAIN

a complete line!

. . of Safe Dependable Chain for Every Job!

There's a size and type of TM Chain to fit each of your requirements. Choose from Proof Coil, BBB, Steel Loading, Hi-Test, Alloy Steel, Dredge Iron, Conveyor, Machine, Coil, Side, Truck, Passing Link, Well, Anti-Spreader, Trace, Furnace, Champion Weldless, Jack (single or double), Pump or Sash Chain. See your mill supply distributor or send coupon for details on any of these dependable chains.

Each does a definite job — BETTER!

S. G. TAYLOR CHAIN CO., HAMMOND, INDIANA

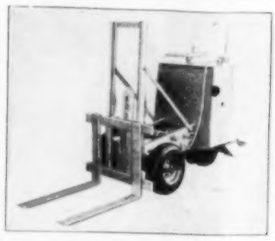
S. G. TAYLOR CHAIN COMPANY
Dept. 4, Hammond, Indiana
Rush details on _____ chain.
Name _____
Address _____

TAYLOR MADE A GREAT NAME IN Chain SINCE 1873

BREVITY—Identify by IEN - 5571 if you write the maker

TRUCK . . Power fork attachment raises ½ ton load to 30 inches

Source: KWIK-MIX CO.
49 Koehring St., Port Washington, Wis.



Power lift is now provided by the addition of a hydraulic pump to the engine drive on the company's Moto-Bug truck, previously described IEN-8521-50. The pump provides hydraulic pressure, formerly supplied by a hand pump, to raise the truck forks through a 30-in. movement. The forks themselves are 20 in. in standard length and are adjustable for width of 33 inches. Weight with the forks is 1,400 pounds.

Drive is by a 4-hp. Wisconsin gasoline engine for travel speeds between 1½ and 4 mph. in forward and reverse. The fork assembly is interchangeable with a flat-bed platform measuring 32 by 48 in., rated at 1,200 lb., and with a 10 cu. ft. hopper or a 5-ft. scraper blade. Blade and hopper can be assembled together if desired.

BREVITY—Identify by IEN - 5572 if you write the maker

PLYWOOD . . Decorative panels faced with imported African cherry

Source: AETNA PLYWOOD & VENEER CO.
1750 N. Elston Ave., Dept. S, Chicago 22, Ill.

Surface features fine texture

Macoba trade names new plywood panel faced with African cherry which is reddish-tan in color. It has a close hard texture combined with good strength which makes it suitable for use in wall paneling and in manufacture of fixtures and furniture. Weight of the wood is between 40 and 50 lb. per cu. ft., seasoned.

The line includes rotary-cut and sliced panels in ⅛-in. thicknesses and 3-ply assembly measuring 48 by 84 in. and 48 by 96 inches. The sliced panel is ¼ in. in thickness and also 3 ply. One size measures 48 by 96 inches.

BREVITY—Identify by IEN - 5573 if you write the maker

TESTING . . Circuit tester indicates continuity in a circuit

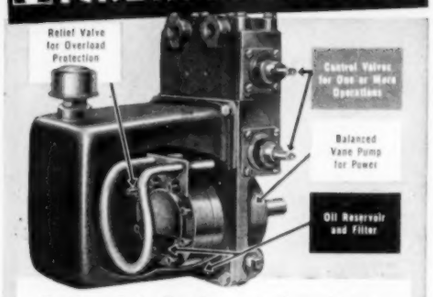
Source: SITTLER CORP.
20 N. Ada St., Chicago 7, Ill.

Battery-equipped flashlight case, forming the main portion of this new electric circuit tester, is equipped with a buzzer in place of the usual flashlight lamp and with two test prods on extension cords. The prods are contacted at the ends of a circuit between which continuity is to be checked. If the circuit is not broken the buzzer will sound. List price is $7.50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 5574 if you write the maker

VICKERS Hydraulic POWER PACK



The Power Pack offers designers and manufacturers a proven and dependable source of hydraulic power in a single compact "package". Hydraulic balance, automatically controlled operating clearances, and built-in overload protection are among the many advantages that make the Vickers Power Pack an outstanding hydraulic equipment value. Saves labor and reduces cost on agricultural implements, construction machinery, materials handling equipment, and industrial machinery.

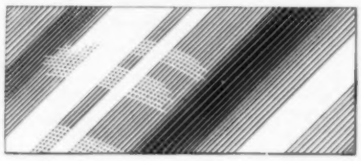
VICKERS Incorporated • DIVISION OF THE SPERRY CORP.
1398 OAKMAN BLVD., DETROIT 32, MICH.

4311 Write for BULLETIN 46-48

BREVITY—Identify by IEN - 5575 if you write the maker

A PAID NEWS ADVERTISEMENT BY CHICAGO EYE SHIELD CO.

LENS . . Mirror-like surface deflects direct light rays



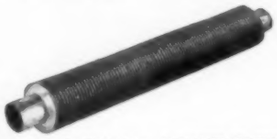
Known as CESCO "Re-Flecto-Ray" lens, this thin, flexible material is used as a welding helmet lens to reflect from the welder's eyes most of the glare from direct light. When placed between regular filter and cover lens, the Re-Flecto-Ray lens permits welder to see work in sharp detail. Lessens eyestrain and fatigue, increases production and quality of work. Costs only 15c each (slightly higher in Canada).

Full information may be obtained from

CHICAGO EYE SHIELD CO.
2326 Warren Blvd.
Chicago 12, Illinois

BREVITY—Identify by IEN - 5576 if you write the maker

For efficient heat transfer "Ro-Fin" Tubes



There are nearly 100 sizes of ROME EXTENDED SURFACE HELICAL FIN TUBING in production! Available in straight length, coils, or U-bends . . . with or without threaded end connections . . . or to be used with standard flare connections. "Ro-Fin" Tubes for efficient heat exchange are used and specified by nearly all large nationally known manufacturers!

For refrigeration condensers • fluid recovery condensers • diesel engine cooling • concealed radiation convectors • steam condensers • fan-type unit heaters • all heat transfer work

Write for information on your heat transfer problems:

ROME TURNEY RADIATOR COMPANY

200 East Front Street • Rome, New York

BREVITY—Identify by IEN - 5577 if you write the maker

MORE SPEED MORE SUPPORT

IMMEDIATE DELIVERY!

PADDOCK BALL-BEARING BAND SAW GUIDES

You'll find **PADDOCK BALL-BEARING BAND SAW GUIDES** more than pay for themselves in: (1) Reducing blade breakage; (2) Cutting more materials; (3) Protecting workmen; (4) Speeding up production; (5) Saves labor time.

Ball-bearing wheels, turning with blade, give strong friction-free support to saw blade. Wheels are interchangeable for years longer wear. They're of strong steel construction. Write today for Free Circulars and Prices.

PADDOCK TOOL COMPANY
1418 Walnut Street, Kansas City, Mo.
Guide Makers Since 1920

Paddock BALL-BEARING BAND SAW GUIDES

BREVITY—Identify by IEN - 5578 if you write the maker

Now More Positive Protection than Ever Before

with the New FLEX-A-FOAM FILTER MASK

Newly designed for maximum comfort and efficiency, it's easier to breathe through and talk through than an ordinary pocket handkerchief . . . yet filters non-toxic dusts as small as 1/25000 of an inch!

- Extremely light in weight—just one ounce complete.
- Self-adjusting to every face size—no interference with eye glasses.
- Simple sturdy design—only four interlocking parts.
- Only respirator made with long-lasting washable filter—outwears throw-away type as much as 100 to 1.

Sample $1.40 postpaid

Write for new descriptive folder

Dust Protection your workers will welcome and Wear

FLEX-A-FOAM FILTER MASK

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

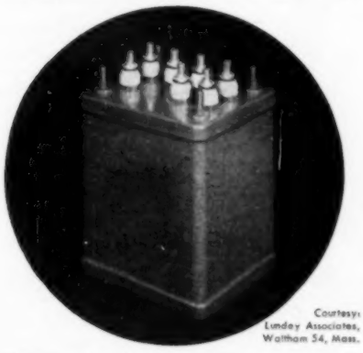
BREVITY—Identify by IEN - 5579 if you write the maker

WEATHER RESISTANCE

SUNLIGHT RESISTANCE

OIL RESISTANCE

These properties of NEOPRENE make a better TRANSFORMER for the TROPICS



Courtesy: Lunday Associates, Waltham 54, Mass.

MOISTURE, HELD BY tropical fungus growths, was causing rapid failure of vital military transformers. A solution to the problem was found in the unusual properties of neoprene. A transformer was developed in which the terminals were designed to provide a hermetic seal by using resilient flanged inserts and cushioning washers of Du Pont neoprene.

The transformer's design called for neoprene because it can be specially compounded to resist fungus attack. And neoprene is unequaled in its ability to withstand sunlight and weather. Even after long exposure it doesn't check or crack . . . retains high tensile strength. What's more, neoprene's oil resistance enables it to stand up under constant contact with the insulating oil used in a transformer of this type.

These exceptional properties of neoprene, together with all its other characteristics, explain why foremost designers and engineers are specifying its use in critical rubber products. Rubber goods manufacturers can formulate neoprene with a combination of properties to meet your most exacting requirements.

FREE! THE NEOPRENE NOTEBOOK . . . *Interesting stories . . . new and unusual applications of neoprene. Write E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Div. D-6, Wilmington 98, Del.*

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

NEOPRENE

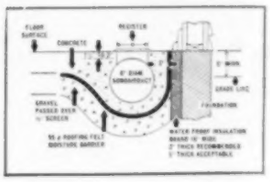
The rubber made by Du Pont since 1932

Properly compounded neoprene will resist: Oxidation • Heat • Air and Gas Diffusion • Low Temperature Stiffening • Oils, Solvents, most Chemicals • Abrasion, Cutting, Chipping • Sunlight and Weathering • Permanent Distortion

BREVITY—Identify by IEN - 5581 if you write the maker

VENTILATING . . Fibre air duct for warm air circulating installations

Source: SONOCO PRODUCTS CO. 49 South St., Hartsville, S. C.



Sonoairduct trade names a new fibre duct which has been particularly designed to be embedded in concrete floor slabs. It serves as the supply and return lines in radial and perimeter hot air heating with oil and gas furnaces. Its use for this purpose is permitted by the Federal Housing Authority. The duct will not delaminate when placed under water or exposed to excessive moisture. It is fire resistant and improves with age. It will withstand rough handling and weathering.

Length is to 25 ft. and inside diameter is from 2 to 24 inches. Standard length is 18 feet. A 4-ft. length of 8-in. duct weighs 6½ pounds. Fibre collars 12 in. in length are available to join long runs. List price is 18½ cents per foot based on the 8-in. size in 1,000-ft. lots of the new duct.

BREVITY—Identify by IEN - 5582 if you write the maker

SANDING . . Abrasive discs for thin materials and soft metals

Source: MILWAUKEE MOTIVE MFG. CO. 1823-27 S. Kinnickinnic Ave., Milwaukee 4, Wis.

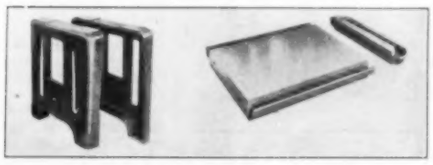
Packed in cartons holding 25 units

Rapid Cool Cut and Space coated are two new designs of abrasive disc for application with portable tools. The former is made with air spaces between clusters of abrasive to minimize frictional heat that could cause warping. The latter has wide spacing between abrasive particles to prevent loading by soft metal. Both include a new shatter-resistant backing material in their construction.

BREVITY—Identify by IEN - 5583 if you write the maker

FURNITURE . . Sectional table particularly for machine mounting uses

Source: DELTA POWER TOOL DIVISION 614 E. Vienna Ave., Milwaukee 1, Wis.



Cast-iron legs and a machined top with integral coolant troughs front and back and separate end trough sections make up a new table assembly on which to mount shop equipment. The top section measures 23⅝ in. in width by 30 in. in length. Two end sections add 5 inches. The end sections are threaded for ¾-in. pipe connection.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 5584 if you write the maker

Utmost Comfort for Workers' Hands... Elastic-Knit-Lined

PIONEER

STANZOIL®

Duplex NL-34's

Lightweight easy-to-wear Stanzoil Duplex NL-34's are designed expressly for comfortable hand protection. Save you money, protect workers' hands. Elastic knit lining stretches . . . allows freedom of action for working hands, speeds production. These DuPont neoprene gloves are extra durable in harmful liquids. Available in light weight, heavy weight; 10½", 12", 14"; standard sizes.

Industrial Glove Division

The PIONEER Rubber Company

636 Tiffin Rd., Willard, Ohio • Los Angeles

STANZOIL PIONEER

OVER 30 Years OF QUALITY GLOVE MAKING

BREVITY—Identify by IEN - 5585 if you write the maker

small

100 Ampere Frame • 600 Volt CIRCUIT BREAKER

This compact breaker has all the construction features of the larger 100, 225 and 600 ampere frames—yet it's 50% smaller.

Available in 15, 20, 30, 40 and 50 ampere, 600 volt rating. 70 and 100 amperes at 250 volts.

***Write** for Bulletin 600 for complete description of Square D's complete line of THERMAL-(Coilless) MAGNETIC Circuit Breakers . . . Address Square D Company, 6060 Rivard St., Detroit 11, Michigan.*

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

BREVITY—Identify by IEN - 5586 if you write the maker

Well Known for Dependability

San Francisco Cable Cars are world renowned for conveying folks up and down that hilly city in their unique and dependable manner.

WEBB Towveyor Floor Type Towing Conveyor

Faster, more efficient is this Webb System for handling packages, boxes, barrels, tote boxes, parts, etc.

With a continuous chain conveyor running in a steel slot *below* the floor, nothing is above to obstruct. It is fast—operator just drops pin in slot—chain picks up load automatically.

Flexible—tracks may be added or disengaged as required.

Ask for Catalog #51

JAMES WEBB COMPANY

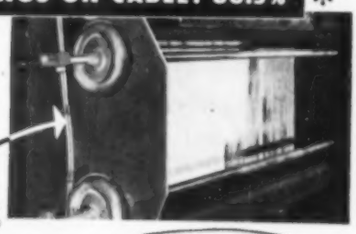
OFFICES IN PRINCIPAL CITIES

8915 ALPINE AVE. DETROIT 4, MICH.

MANUFACTURERS OF OVERHEAD AND FLOOR TYPE CONVEYORS

BREVITY—Identify by IEN - 5587 if you write the maker

"SAVINGS ON CABLE: 88.5%" *



This remarkable saving was achieved with Okotherm cable. The installation was on a series of presses where temperatures ranged from 350° to 450°F. Automotive ignition cable previously used had to be replaced every month; replacement period for the heat-resisting Okotherm cable: two years!

Such stories are not unusual in the file of actual case histories at Okonite. For the broad research and production facilities which have developed the world's finest cables for standard usage, have also developed many types for highly specialized installations.

These facilities are available to *you*, to help solve any difficult cable problems arising in *your* operation. Don't hesitate to call in your nearest Okonite representative, or write The Okonite Company, Passaic, N. J.

THE BEST CABLE IS YOUR BEST POLICY

OKONITE *insulated wires and cables*

BREVITY—Identify by IEN - 5588 if you write the maker

FOR SMALL HOPPERS

This Vibrator keeps material flowing freely from hopper mounted over magnetic separator.

STORAGE BUNKERS

Coal bunkers equipped with V-200 Vibrators assure a steady flow to those oven larry cars.

OR CHUTES

No arching and plugging here, no hammering or rodding . . . these coal chutes to pulverizers are equipped with Syntron Vibrators.

SYNTRON

"Pulsating Magnet"

ELECTRIC VIBRATORS

3600 controllable vibrations per minute keep the most stubborn materials flowing freely thru bins, hoppers, chutes and screens . . . of any size . . . providing faster processing at reduced costs.

Write To—

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 5589 if you write the maker

NOW . . . A POLISHER THAT'S UNIVERSALLY ADJUSTABLE!

Built for use with the Vonnegut Brush-Backed Polishing Head, this unique tool is designed for sanding, smoothing or finishing contoured patterns—such as mouldings and formed or extruded shapes.

The brush bristles of the head automatically force abrasive strips to conform with and follow the shape of the pattern. The unique spindle stand (adjustable to any angle through 180° from vertical to vertical with head below or above the motor) makes it possible to bring the Vonnegut head into proper relation with a vertical, horizontal or angled surface of any pattern.

Don't hold back. Tell us about your finishing problems; we *may* have the answer to cutting your costs.

VONNEGUT MOULDER CORPORATION
1827 MADISON AVENUE • INDIANAPOLIS 25, IND.

BREVITY—Identify by IEN - 5590 if you write the maker

New • Fast • Safe ACID PUMP

FOR STEEL CARBOYS

operated by air-line pressure

A steady flow of acid or other liquid is quickly and easily obtained. Safety air valve automatically releases when air pressure is more than required for steady flow.

No. G-S 17 Pneumatic Acid Pump . . . $18.80
Air Hose No. 17, 25 feet with connectors $12.86

HAND OR FOOT OPERATED MODELS

Where air pressure is not available or for glass carboys, use manually operated Acid Pumps.

Write for full particulars.

SEND FOR COMPLETE 1950 SAFETY CATALOG

All items shipped direct from Philadelphia.

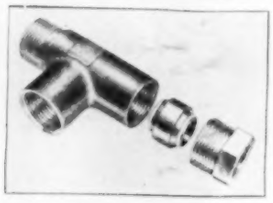
GENERAL SCIENTIFIC EQUIPMENT CO.
2703 W. Huntingon Street,
Philadelphia 32, Pa.

SAFETY EQUIPMENT FOR EVERY HAZARD

BREVITY—Identify by IEN - 5591 if you write the maker

TUBE FITTINGS . . Stainless steel connectors, unions, elbows, tees

Source: SPECIAL SCREW PRODUCTS CO.
5443-47 Dunham Road, Bedford, Ohio



Sizes range from ¼ to 1 in. in the company's expanded line of Koncentrik flared-tube fitttings for connection between tubes and for tube-to-pipe assemblies. Illustrated is a tee with a 1-in. flare-tube end, a 1-in. female pipe end, and a ¾-in. male pipe end. Construction includes the company's patented self-centering seat and reinforcing Teflon rings for double sealing action.

BREVITY—Identify by IEN - 5592 if you write the maker

LUBRICATING . . Multi-purpose grease serves a range of operating conditions

Source: SHELL OIL CO.
50 W. 50th St., Room 4237, New York 20, N. Y.

Factory sealed
versus
Factory filled

We call your attention to our previous description, IEN-5011-50, of the company's Alvania grease lubricant to clear up a point of definition that may have caused some misunderstanding. We reported the grease as suited for application in anti-friction bearings other than those that are factory "sealed", the reference to "sealed" applying to bearings with no provision for relubrication in service.

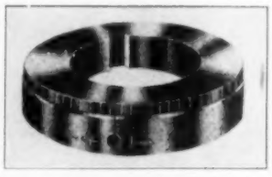
This definition does not extend to bearings that are designed to be relubricated. Such bearings are correctly known as factory "filled".

The company does recommend its Alvania grease for the factory "filled" design. It is specifically inhibited for long shelf storage as well as service life.

BREVITY—Identify by IEN - 5593 if you write the maker

MILLING . . Adjustable collar with bore from ⅝ to 2½ inches

Source: DAYTON ROGERS MFG. CO.
2822-26 13th Ave. S., Minneapolis 7, Minn.



The alloy steel employed in construction of this new adjustable spacing collar is capable of taking arbor-nut pressure as high as 25 ton in setting up an assembly of cutters on a milling machine arbor. The collar can be set for a desired width by turning its two halves in relation to each other after loosening the arbor nut. A spanner wrench is provided for the adjustment. It is possible to set accurately to within 0.00025 inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5594 if you write the maker

New speed and savings in wrap-around fastening!

BOSTITCH SELF-FEEDING "HOG-RING" PLIER

Applying the self-feeding principle to the familiar hog ring operation, the Bostitch P-7 stapling plier can greatly speed up many "wrap-around" fastening jobs. Preformed staples with ¼" openings are fed from a cemented strip and formed into ¼" rings around wires, cords, seat cover edges, and many other things for which this size hog ring is generally used. Faster work means quicker production with fewer man-hours and at less cost. For complete information, write BOSTITCH, 462 Mechanic Street, Westerly, R. I.

BOSTITCH® fastens it better, AND FASTER with wire

ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

BREVITY—Identify by IEN - 5595 if you write the maker

NO SPRINGS TO BREAK in the *Nutting* JACK

IT'S ALWAYS DEPENDABLE

The Nutting Jack is the ONLY jack operated entirely by gravity and leverage. With no springs to break, there is no danger of your whole jack-skid system suddenly being put out of service.

One lift truck and two dead skids cost about the same as *two Nutting Jacks and twelve semi-live skids.* That's one reason why the Nutting Jack and Skid system can be such a money-saver in your plant. Material stored on semi-live skids is made mobile in a hurry. The jack may be coupled to one skid, then uncoupled and coupled to another faster than the time it takes to tell about it.

Send for Bulletin 48-JS

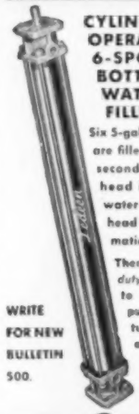
Look in your classified phone directory for your Nutting representative, or write for Bulletin 48-JS. It will pay you to get all the facts on this superior Nutting Jack-Skid handling system.

Nutting makes everything in floor trucks, wheels, casters.

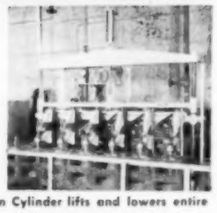
NUTTING TRUCK AND CASTER COMPANY
2012 Division Street Faribault, Minnesota

BREVITY—Identify by IEN - 5596 if you write the maker

***Ledeen* CYLINDERS IMPROVE THE JOB**



CYLINDER OPERATES 6-SPOUT BOTTLED WATER FILLER HEAD



Six 5-gallon bottles are filled every 30 seconds by filler head in bottled water plant. Ledeen Cylinder lifts and lowers entire head with centering bells and spouts. Head is automatically lifted by cylinder when bottles are filled.

There are Ledeen *medium duty, heavy duty* and *super duty* cylinders for air, oil or water operation ready to help you, wherever you have to . . . push or pull • lift or lower • press or squeeze • tilt or turn • open or close. Standard Ledeen cylinders and mounting attachments are available from distributors' stock in major cities. Special cylinders on order.

WRITE FOR NEW BULLETIN 500.

LEDEEN CYLINDERS ARE GOOD CYLINDERS

***Ledeen* MANUFACTURING CO.**
1602 SAN PEDRO STREET • LOS ANGELES 15, CALIF.

BREVITY—Identify by IEN - 5597 if you write the maker

NEW IMPREGNATED FELT GASKETING MATERIAL

PREVENTS CORROSION AND ELECTROLYSIS

SEALS AGAINST DUST, WIND & WATER

CHROME LOCK consists of a high-grade felt, impregnated with a specially formulated blend of permanently thermoplastic resins, plasticizers, inert pigments and chromates. Prevents corrosion on original installations — stops corrosion when applied to rusty joints. Chrome Lock also inhibits *electrolytic action* between dissimilar metals.

CHROME LOCK has outstanding anti-aging qualities and will not deteriorate. Tests prove Chrome Lock far outlasts rubber. Chrome Lock is the ideal seal wherever anti-corrosion, anti-electrolysis and anti-aging properties are required! Read these added features:

★ **EASY TO APPLY:** Pressure-sensitive adhesive back.
★ **ANTI-WICKING:** Non-soluble in water or saline solutions. Prevents seepage under normal pressure applications.
★ **LIGHTER FLANGING MATERIALS:** Low pressure compressibility reduces required bolt torque pressures.
★ **MANY TYPES:** (Type S) Standard Material.
(Type N) Flame Resistant. Conforms to BuShips Spec. 3JF8.
(Type OR) Oil Resistant. Used wherever S.A.E. 10-60 oils are present.
★ **MANY SIZES:** Thicknesses of 1/64", 1/32", 1/16", ⅛" and ¼". Widths from ¼" to 60".
★ **CUT GASKETS:** Made to your specifications.
★ **NATIONWIDE SERVICE:** Sales engineers in all principal cities.

Write on your company letterhead for new 6 page Engineering Folder No. SP-1051

Manufactured by Products Research Company

SPRING PACKING CORPORATION
332 S. MICHIGAN AVE. • CHICAGO 4, ILLINOIS

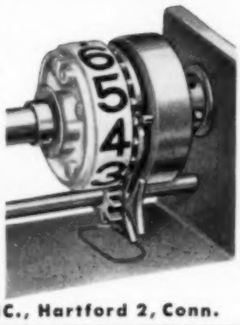
BREVITY—Identify by IEN - 5598 if you write the maker

Have you a Military Job for this Special Counting Mechanism? . . . then you will find out what we mean when we say . . .

Everyone Can Count on VEEDER-ROOT

You're looking at a new *and patented* development . . . featuring the Veeder-Root "Geneva Transfer" . . . designed for higher speeds and easier readability from a distance.

Here's another vitally important Veeder-Root "first," for use in military equipment. And within the understood limitations of the present-day rule of "first things first" . . . what can we *figure out* for you?

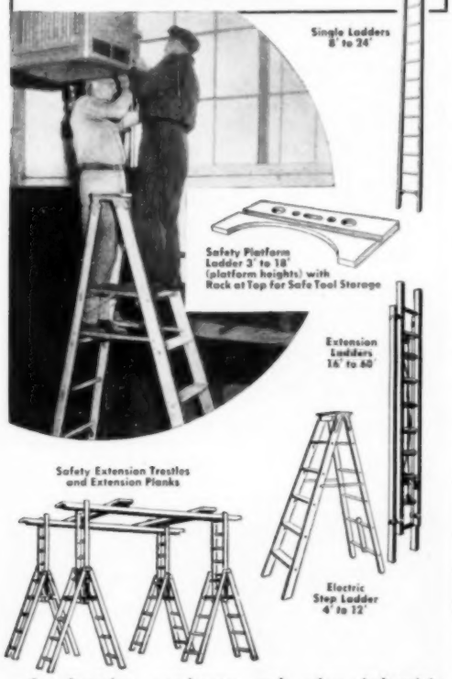


VEEDER-ROOT INC., Hartford 2, Conn.

BREVITY—Identify by IEN - 5599 if you write the maker

Cost Less Per Year . . . because They Last YEARS Longer

GOLD MEDAL LADDERS AND TRESTLES



In factories, warehouses and other industrial properties, service and maintenance men demand Gold Medal Ladders and Trestles because they are stronger, safer and withstand hard usage for years longer. Made of the finest, selected woods, they're skillfully made in a large, modern factory by one of the oldest organizations in the field—with more than seventy years' experience.

Types and Sizes for Every Need

You can put your men at the most convenient working height *in greater safety* with Gold Medal Ladders—single, extension and step types—some of which are illustrated—*in a wide range of sizes.*

Used in thousands of plants. See how they can help you . . . write for new Catalog L-71.

Ladders, Scaffolds for any Purpose—Any Place—Any Time

GOLD MEDAL LADDERS SCAFFOLDING — for Greater Safety...Efficiency...Economy

THE PATENT SCAFFOLDING CO., Inc.

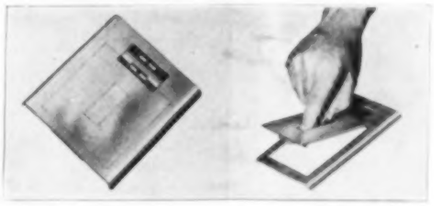
38-21 12th St., Dept. IEN, Long Island City 1, New York

See Your Classified Telephone Directory for Nearest Office

BREVITY—Identify by IEN - 5601 if you write the maker

FASTENING . . Flush self closing latch for use on metal, plastic, wood doors

Source: HARTWELL CO.
9033-37 Venice Blvd., Los Angeles 34, Calif.



Type H-4000 is a new design in the company's line of flush latches and hinges for assembly on service and access doors. The new unit latches and holds when the door is pushed to closed position. Positive check on the closing is assured by the fact that the trigger handle of the latch will turn to flush with the door surface only when the bolt is fully engaged. In this position the surface is smooth, presents no obstructions. Opening is by depressing the trigger at one end and then lifting under the opposite end which comes up for this purpose.

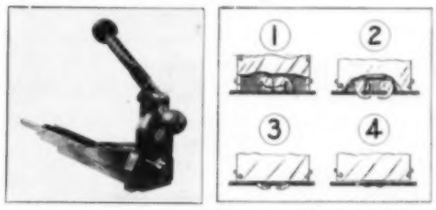
Overall dimensions are about 2½ in. in length including the bolt, in extended position, by 1½ in. in width. The hinge plate is ¾ in. in width and is subject to specification for length. Construction can be specified in corrosion-resistant steel, in cold-rolled steel cadmium plated, and in aluminum.

Catalog, "Flush Latches and Hinges", 24 pages plus 16 sheets of engineering drawings to provide illustrated detail information on the company's line of latches and hinges.

BREVITY—Identify by IEN - 5602 if you write the maker

STAPLING . . Portable hand tool staples the flaps of filled cartons

Source: INTERNATIONAL STAPLE & MACHINE CO.
51 Industrial Blvd., Herrin, Ill.



New application of the company's retractable-anvil stapling mechanism is in a hand tool weighing a little under 5 pounds. The new unit is known as the Boxer. It measures 16½ by 3½ by 7 inches. It drives a staple measuring 1⅜ in. in width by ⅜ in. in leg length. The magazine holds 100 staples.

Access to the carton is required from the outside only due to the action of the penetrating retractable anvils which are adjustably mounted to rotate as shown in the illustration. Their sharpened ends penetrate the carton and then turn inward to form an inner anvil on which the staple is clinched on continuing downward movement of the driving plunger. They rotate back out of the work when the plunger is retracted to leave the staple in clinched position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 5603 if you write the maker

SCIENTIFICALLY FILTERS GLARE

OF ACETYLENE AND HYDROGEN FLAME and BURNING FLUX

Through the BURT-WELD LENS the welder sees his acetylene or hydrogen flame only as a pale cone at the burner tip of his torch – so small that one foreman actually thought his torch had gone out! Strain and fatigue almost entirely eliminated – mistakes in work reduced – production speeded up. BURT-WELD Lenses are scientifically ground, polished, and optically perfect – only slightly opaque in density – fit any goggle taking 50 mm round lens. *Write for bulletin and prices.*

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

BREVITY—Identify by IEN - 5604 if you write the maker

INDUSTRIAL INKS To Mark Anything!

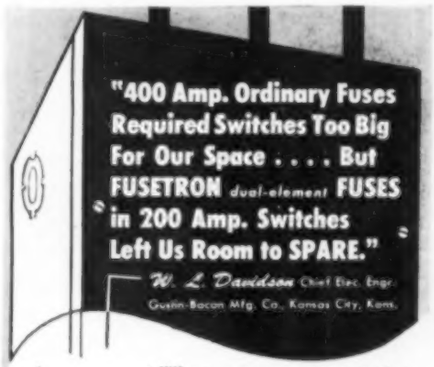
Production engineers use "Clear Print" Wood Block Stamp Pads and Opaque Inks for the best clear, sharp, fast drying impressions. To cut down on lost shipments and rejected assemblies because of poor identification, use "Clear Print" for shipping room direction stamps and parts numbers. You are assured of permanently legible markings. Many bright visible colors available.

- For marking on non-porous materials such as:
- WOOD, METAL, GLASS, PLASTIC, RUBBER, PAPER AND MANY OTHERS.

PHILLIPS PROCESS CO., INC.
192 MILL ST., ROCHESTER, 14, N.Y.
L. A. PHILLIPS, President

CARBON PAPER — PRINTING TYPEWRITER RIBBON — CLEAR-PRINT WOOD STAMP PADS

BREVITY—Identify by IEN - 5605 if you write the maker



"When we were revamping five 3 phase 220 volt motor circuits, each feeding a 25 h. p. and a 15 h. p. motor, at our Fairfax plant—we found we were short of room for the 400 amp main switches required by ordinary fuses.

"By changing to Fusetron dual-element fuses, however, we were able to use 200 amp. switches and have room to spare.

"The installation has proved very satisfactory, and in addition; we get better protection because the motors are fused nearer to the operating load."

You Get 10 POINT PROTECTION by changing to

Fusetron Fuses

1 *Protect against short-circuits.
2 Protect against needless blows caused by harmless overloads.
3 Protect against needless blows caused by excessive heating — lesser resistance results in much cooler operation.
4 Provide thermal protection — for panels and switches against damage from heating due to poor contact.
5 Protect motors against burnout from overloading.
6 Protect motors against burnout due to single phasing.
7 Give DOUBLE burnout protection to large motors — without extra cost.
8 Make protection of small motors simple and inexpensive.
9 Protect against waste of space and money—permit use of proper size switches and panels.
10 Protect coils, transformers and solenoids against burnout.

*Fusetron Fuses have high interrupting capacity as shown by tests of the Electrical Testing Laboratories of New York City.

FUSETRON — TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION — BUSS

DON'T RISK LOSSES!

One needless shut down, one lost motor, one destroyed panel or switch, one burned out solenoid—May cost you more than replacing every ordinary fuse with a FUSETRON dual-element fuse.

BUSSMANN MFG. CO.,
Division of McGraw Electric Co.
University at Jefferson St. Louis 7, Mo.

BREVITY—Identify by IEN - 5607 if you write the maker

CAMBRIDGE Moisture Indicators

Cambridge Moisture Indicators are accurate, rugged instruments built for continuous shop service to indicate moisture content of various hygroscopic materials. Insertion model has measuring element enclosed in a blade. Surface model has the element mounted on under side for surface contact. Adjustable pointer is provided for fixing reference points of surrounding air.

Surface Model

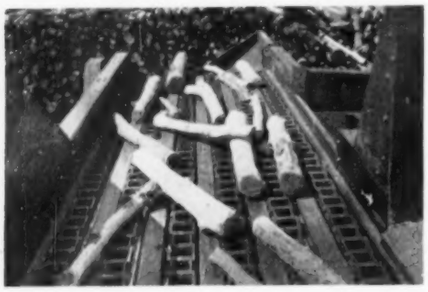
Insertion Model

For use in Hat, Printing, Textile, Food industries and in processing Paper, Wool, Cotton, Rayon, Fur, Cereals, etc.

Send for literature

CAMBRIDGE INSTRUMENT COMPANY, Inc.
3710 GRAND CENTRAL TERMINAL NEW YORK 17, N. Y.
Pioneer Manufacturers of
PRECISION INSTRUMENTS

BREVITY—Identify by IEN - 5608 if you write the maker



CUT COSTS . . . SPEED HANDLING

Many tough conveying jobs are made easy with Jeffrey chains once our engineers get the call. They can offer complete material handling and transmission service — rugged, dependable units engineered to speed production and cut costs through various processes.

Jeffrey-equipped means efficient operation. Take advantage of Jeffrey experience and specialized training.

JEFFREY
THE JEFFREY MANUFACTURING CO.
914 Fourth Street, Columbus 16, Ohio

BREVITY—Identify by IEN - 5609 if you write the maker

Since 1887

MILWAUKEE WROT WASHERS

Better **WASHERS ... Competitively Priced**

Large volume production, the most advanced methods and facilities, plus more than 60 years of continuous experience in the manufacture of Washers, are factors that enable us to offer you top quality washers and stampings at competitive costs. Over 22,000 sets of dies for making Washers of every type (Standard and Special), from every type of material, for every purpose, in any finish. STAMPINGS of all descriptions; Blanking, Forming, Drawing.

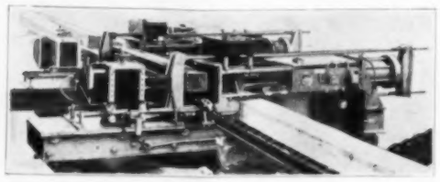
Submit your blueprints and quantity requirements for estimates.

WROUGHT WASHER MANUFACTURING CO.
This World's Largest Producer of Washers
2207 S. BAY ST., MILWAUKEE 7, WIS.

BREVITY—Identify by IEN - 5610 if you write the maker

WOODWORKING . . Dowelling machine drills and dowels wood railroad ties

Source: GRAHAM TIE DOWEL SERVICE CO.
1201-A Huntington Bank Bldg., Columbus 15, Ohio



Two dowels measuring ½ in. in diameter and to 12 in. in length are assembled near the ends of railroad ties by this new machine. The machine drills the dowel holes while holding the ends of the tie under pressure in vises. It employs hydraulic pressure to drive the dowels. Ties that have been dowelled will stand up in service without splitting seriously for a considerably longer time than ties not treated.

The machine is available in single and double assembly, the latter being two of the single units working in the tandem. The double assembly will handle 7 to 8 ties per minute. The machine measures about 10 ft. in length. A single unit weighs 7,500 pounds. Application can be made on new ties or those that have split in service and are up for reclaiming.

BREVITY—Identify by IEN - 5611 if you write the maker

PAINTING . . Aluminum pigment simulates chromium plating on metal

Source: METALS DISINTEGRATING CO.
1188-92 Arthur Blvd., Elizabeth 8, N. J.

Shows excellent dispersibility

Aluminum Paste No. MD-769 is a new leafing-type pigment with 65 per cent of non-volatile content. It is intended for mixing with a suitable vehicle for application in the place of chromium plating, particularly on automotive hardware.

BREVITY—Identify by IEN - 5612 if you write the maker

METER . . Electric instrument reads amperes, volts, watts, is portable

Source: RELIANCE INSTRUMENT CO.
3936-38 W. Roosevelt Road, Chicago 24, Ill.

New design in the company's line of portable instruments includes ammeters for readings to 500 amperes ac. or dc., voltmeters to 750 volts ac. or dc., wattmeters to 300 amperes and 300 volts. The design features ruggedness in the meter movement and structural strength for heavy-duty service in the ⅝-in. walnut housing which is assembled with interlocked joints at the corners. A Lami-cold cover plate is employed on the instrument face with an opening for the 5-in. meter scale.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5613 if you write the maker

JOY WL-80 "UNITAIR"

the Compressor of 1000 uses
81 to 640 CFM

- ★ A size for *every* standard motor rating
- ★ Air cooled . . . Two stage
- ★ Force-feed lubrication
- ★ Small floor-space requirements

Write for this FREE HELP!

New 16-page Bulletin A-56—has complete details and a Selector Chart to help you choose the right compressor for your needs.

Consult a Joy Engineer W&D 13087

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

BREVITY—Identify by IEN - 5614 if you write the maker

New Equipment for testing, balancing operations . . .

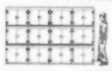
Industry has thousands of testing, balancing and checking operations. For years these operations were time consuming, costly and dependent upon the human element. Today these tasks are handled by simple weighing. The result has been better products in less time. Illustrated is two EXACT WEIGHT shadographs in a connecting rod operation. One unit weighs the heavy end, the other unit the light end. Such electrically operated equipment handles thousands of rods for balance cheaper, faster, accurately. This is but one example of hundreds of special applications for EXACT WEIGHT Scales in industry. Write for full details covering this new equipment.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

BREVITY—Identify by IEN - 5615 if you write the maker

THIS **GRIEVE-HENDRY PORTABLE INDUSTRIAL ELECTRIC OVEN** *WILL CUT YOUR COSTS!*



Model CR-1

10 CU. FT. CAPACITY
30" Wide
25" Deep
24" High
Removable Shelves and Drip Pan

FOR THESE REASONS . . .

. . . LOW FIRST COST ONLY . . . $79.50

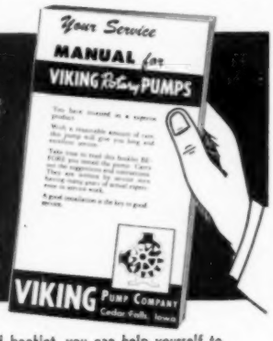
- PORTABLE — move it to the job, or use in a group or bank.
- LOW OPERATING COST — costs less than 5c per hour to operate.
- OUTSIDE READING SENSITIVE THERMOMETER AVAILABLE.
- ADJUSTABLE TEMPERATURE CONTROL.
- FAN DRIVEN FORCED CIRCULATION — assures uniform temperature.
- PLUGS INTO ANY 110V WALL OUTLET — no special wiring required.

Other Standard Models with Temperature Range to 800° F. Available • Write for Literature

GRIEVE-HENDRY CO., INC.
1654 WEST HADDON STREET CHICAGO 22, ILLINOIS

BREVITY—Identify by IEN - 5616 if you write the maker

HELP YOURSELF To More and Better PUMP SERVICE



With this illustrated booklet, you can help yourself to more efficient, economical service from your Viking Rotary Pumps. Although Vikings are rugged, they are also valuable, precision-built pumps that serve better with proper installation and care. Now that defense needs require part of our production, prompt replacements may be delayed. We strongly urge, therefore, that users follow instructions in this FREE manual F to help maintain longer service from your Viking Pumps.

FOR YOUR COPY, JUST CLIP THIS AD AND SEND IT TO

VIKING AN HONORED NAME IN PUMPING

Viking PUMP COMPANY
Cedar Falls, Iowa

BREVITY—Identify by IEN - 5617 if you write the maker

THE WATERSPHERE

for modern water storage

The Horton Waterosphere is today's answer to an efficient, independent plant water supply. Modern, and completely functional, it provides dependable service twenty four hours a day.

Waterspheres are built in capacities from 25,000 to 250,000 gallons. Write for estimating figures, stating capacity required, height to bottom, location and type of insurance carried.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston • Los Angeles • New York • Philadelphia • Salt Lake City • San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

BREVITY—Identify by IEN - 5618 if you write the maker

hose and duct clamps to fit special needs

Ordinary run of the mill hose clamps don't fill the bill for many applications with specialized or exacting requirements. Marman Clamps are engineered to fit particular needs.

For all around use . . . varying sizes and shapes . . . Marman Universal Clamps are the answer. Continuous band design for easy installation and wide size adjustment . . . stainless steel for strength and corrosion resistance . . . self locking swivel nut for resistance to vibration . . . can be used again and again.

For extra strength . . . Marman T-Bolt Clamps' exclusive features provide even circumferential take up, assure an efficient seal.

For fast assembly and disassembly . . . Marman Quick Coupler Clamp patented snap on latch makes it go on or off in an instant. Particularly suitable for removable equipment, accessories and ducts.

Our catalog tells more . . . just write Dept. 1-6

MARMAN PRODUCTS CO. INC. 940 WEST FLORENCE AVENUE INGLEWOOD, CALIFORNIA

BREVITY—Identify by IEN - 5619 if you write the maker

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Get it in 7 oz., 1, 5, 20, or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 170 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

50-293

Do it with SMOOTH-ON
THE IRON CEMENT OF 1000 USES

BREVITY—Identify by IEN - 5620 if you write the maker

TRUCK . . Side dump trailer in 14, 17 and 20 ton load ratings

Source: EASTON CAR & CONSTRUCTION CO.
Holly & Liberty Sts., Easton, Pa.

Model TP designates new two-way side-dump pan-type trailer for use with an automotive tractor in construction work and in bulk load handling. The trailer is supplied with one of the company's permanently-coupled rubber-mounted fifth wheels, including mounting brackets and bolts. Mounting plates for the wheel and tractor-frame cover plate, with attachments are available but are not counted as standard equipment.

The body is made of arc-welded steel. The assembly includes a 3-in. oak floor cushion and replaceable carbon-steel liner plates. Overall ranges from 192 to 242 inches. Width is 129 in. and height is 106 inches.

BREVITY—Identify by IEN - 5621 if you write the maker

SEALING . . Synthetic gasket for application in vacuum equipment

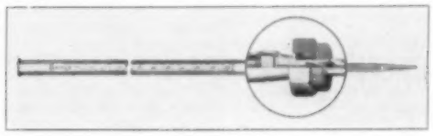
Source: DISTILLATION PRODUCTS INDUSTRIES DIVISION
761 Ridge Road W., Rochester 3, N. Y.

Myvaseal is a new synthetic rubber gasket material that is characterized by its softness, resistance to abrasion and its low out-gassing pressure. Primary application is in the vacuum-producing equipment manufactured by the company to evacuate electron tubes. It is suitable for use in vacuums to 0.1 microns of mercury.

BREVITY—Identify by IEN - 5622 if you write the maker

TESTING . . Laboratory buret controls flow at teflon plugs

Source: EMIL GREINER CO.
22-24 N. Moore St., New York 13, N. Y.



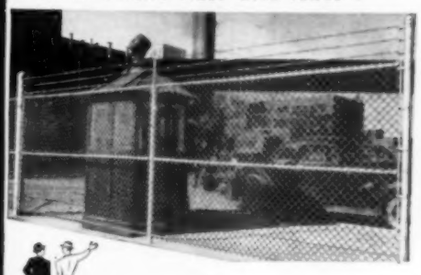
Ultramax trade names new design of laboratory buret employing Pyrex tubing, a fused-in ceramic scale and a teflon flow-control plug with a knob and locknut made of Vinylite plastic. The knob is hexagon in outline so the buret can be placed on a flat surface without danger of rolling.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN - 5623 if you write the maker

PAGE FENCE *Since 1883*

• AMERICA'S FIRST WIRE FENCE •



Defense against hazards which could hinder or stop production is a major function of Page Chain Link Fence, guardian of persons and property for more than 60 years. Consult the skilled Page Fence erecting firm near you, whose name we will send with fence data on request. Cost estimates, no obligation. For information:

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

BREVITY—Identify by IEN - 5624 if you write the maker

REDUCE HANDLING of Tools, Parts and Materials

Because Stackbins are portable containers — not fixtures — tools, parts and materials can be carried to departments, from machine to machine, or held in stockrooms without being transferred from one container to another. Stored in Stackracks, any Stackbin is instantly accessible when its contents are needed — without disturbing any other bin. *Stackbins*—individual hopper-fronted stacking bins, slide like drawers in *Stackracks* — individual units which lock together to form racks of any size, shape or capacity.

STACKBINS IN STACKRACKS

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

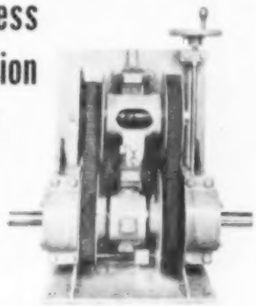
Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM "Stacked and Still Accessible"

BREVITY—Identify by IEN - 5625 if you write the maker

Wider Stepless Speed Variation

with less belt replacement



Now you can get instantaneous stepless speed control in minimum space and with assurance of minimum belt replacement.

The new Worthington ALLSPEED DRIVE uses a *tandem belt* arrangement rather than a single belt. Result—a wider range of speed variation, less belt wear (narrower belts mean less flexing and compression).

Sizes from 1-15 hp; up to 16-1 variation. Upright or horizontal frame. With built-in motor—or to be driven by belt, chain or gears.

Write for Bulletins: AS-1600-B3 and B4. Worthington Pump and Machinery Corporation, Allspeed Drive Sales Division, Holyoke, Massachusetts.

WORTHINGTON

AS.1.5

BREVITY—Identify by IEN - 5626 if you write the maker

NOW... WARPLIS precision ground Flat Stock Immediately Available from FRASSE

Warplis precision ground flat stock, ready for use on all precision jobs, is now quickly and conveniently available from Frasse warehouse stock. This cold melt electric furnace tool steel is oil hardening, non-warping—precision ground on all four surfaces and free from defects and decarb.

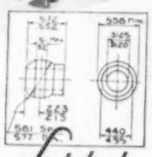
Frasse carries over 150 different sizes in stock for you to choose from. Flat sizes range from 1/64" to 1¼" in thickness, square sizes from ¼" to 1" . . . standard length is 18", other sizes and lengths can be furnished to order.

Each length of Warplis bears its size and grade and is furnished in its own individual protective wrapper bearing size and heat treatment. You'll find Warplis a pleasure to work with . . . and you'll realize a considerable saving on make-ready. Write for additional details and our Warplis inventory—no obligation.

FRASSE for WARPLIS PRECISION GROUND FLAT STOCK

Peter A. FRASSE & CO., Inc.
17 Grand Street, New York 13, N. Y.
JERSEY CITY PHILADELPHIA BUFFALO SYRACUSE

BREVITY—Identify by IEN - 5627 if you write the maker



JOHNSON
Self-Aligning
BEARINGS REDUCE ASSEMBLY COSTS

Ledaloyl

Johnson Ledaloyl Bearings in numerous self-aligning styles are designed to slip into place and adjust themselves to shaft position. They require no machining, no fitting. They are produced by powder metallurgy and are self-lubricating. Catalog L-5 shows designs of items and lists sizes available from stock.

Write for your copy today.

SLEEVE BEARING HEADQUARTERS *Since 1901*

Johnson Bronze
476 SOUTH MILL STREET NEW CASTLE, PA.

BREVITY—Identify by IEN - 5628 if you write the maker

FAIRBANKS-MORSE GENERATING SETS

Need power for isolated construction jobs? Load a Fairbanks-Morse generating set onto your truck! You'll have plenty of power for operating tools, hoists, compressors and other needs.

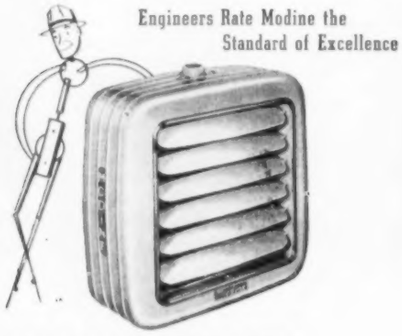
There is a generator of the size you need in the Fairbanks-Morse line, which ranges from 600 to 35,000 watts capacity—A.C., D.C. or A.C.-D.C.

Ask your construction supply dealer to give you all the details. If he hasn't the model on hand that you need, he can get it quickly. If you don't know who handles Fairbanks-Morse generators, write Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE,
a name worth remembering

Diesel Locomotives and Engines • Electrical Machinery • Pumps • Scales
Home Water Service Equipment • Rail Cars • Farm Machinery

BREVITY—Identify by IEN - 5629 if you write the maker



COMPARE FIRST... YOU'LL CHOOSE MODINE UNIT HEATERS

Whether you specify the *Vertical, Horizontal* or *Power Throw* model — Modine Unit Heaters give you *unequalled* heating performance. They are economical to install — require minimum servicing. Tests prove that they save up to 25% over direct radiation under similar operating conditions. Your dealer will show you the features that prompt engineers to rate Modines the *standard of excellence* among unit heaters.

Ask your Modine dealer for Unit Heater Catalog 149-A. Or write direct. Modine Mfg. Co., 1503 DeKoven Ave., Racine, Wis.

Modine UNIT HEATERS

BREVITY—Identify by IEN - 5630 if you write the maker

LADDER . . Hydraulic stabilizer adjusts for firm foot support

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.

Two steel legs assemble as pistons in vertical tubes that attach to the lower ends of the side rails on a ladder in this new Hydralizer stabilizer attachment. Each leg is equipped with a swivel shoe on a ball-and-socket joint at the lower end. The shoes are hardened steel plates measuring 3½ in. in diameter with rubber faces measuring ¾ in. in thickness. These faces carry concentric circular grooves so the rubber contacts a surface with a gripping action. Four sharp teeth on the shoe rim on one side will bit into ice or slippery asphalt when the shoe is turned up to ride on edge.

The vertical tubes on the ladder rails are connected near their upper ends by steel telescoping tubes leading to a central valve block. The arrangement permits adjustment for any ladder width between 17 and 29 inches. The entire assembly is filled with oil above the plungers. Opening the valve permits oil to move from one side to the other so that one leg can move up to adjust to an uneven surface while the other leg moves an equal amount downward. When both are positioned satisfactorily the valve is closed to lock the oil so neither leg can move. The attachment will handle loads to 1,000 pounds.

BREVITY—Identify by IEN - 5631 if you write the maker

PRESS TOOLS . . Strip stock reel minimizes manual handling at a press

Source: JACO DEVICES INC.
100-104 High St., Dept. IEN, Hingham, Mass.

Strip stock is positioned horizontally on the ball bearing table of this new reel and its coil end is threaded through a guide member to reach to a feeder on a punch press as shown in the illustration. Movement of the stock into the press sets up turning action that causes the table and coil to rotate as the material is taken from it. Any over-rotation is retarded by the action of the strip itself.

The reel will carry a 600-lb. load. It is made in two sizes measuring 30 and 36 in. in diameter. Both sizes stand 37 in. in maximum height. The top support is adjustable to the level of the punch press feed. Stock measuring ¼ to 6 in. in width can be handled in any material and in any thickness that has sufficient strength to develop the small required turning torque.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
Try the hundreds of listings in the index, page 106

BREVITY—Identify by IEN - 5632 if you write the maker

You Cannot Beat Turbine-Type APCOS *for Small Capacity, High Head Duties*

DISTRIBUTORS IN PRINCIPAL CITIES

Aurora Always Pumps — **AURORA PUMP COMPANY**
52 Loucks Street • Aurora, Illinois

BREVITY—Identify by IEN - 5633 if you write the maker

PORTABLE!
PRACTICAL!
PROFITABLE!

Union Special SUSPENDED HEAD
BAG CLOSING MACHINES

Portability, versatility, and simplicity of operation make Union Special Suspended Head Machines ideal for all-around bag closing operations in small plants, and well-suited for utility or stand-by duty in large plants. Users have found that machines can be used to produce neat, strong closures on virtually all types of paper or cloth bags. Initial cost is low; installation is simple and inexpensive. You can hang them up any place and go to work!

Send for this NEW BULLETIN!

Get your copy of Bulletin No. 200 containing illustrations and helpful data charts for the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 410 N. Franklin St., Chicago 10, Ill.

BREVITY—Identify by IEN - 5634 if you write the maker

MORE SOLD THAN ANY OTHERS
Write for Catalog
OF USES AND SPECIFICATIONS

GENERAL Industrial Pneumatic Tires

..SAVE TIME·LABOR·MONEY

Protect equipment and floors • Reduce Breakage

- ★ *Wide Base Wheel*
- ★ *More Air Volume*
- ★ *More Stability*
- ★ *More Load Capacity*
- ★ *Longer Miles in Hi-Speed Service*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 27"—200 to 4000 lbs. cap. for low and high speeds.

Rigid CASTER FORKS *Swivel*

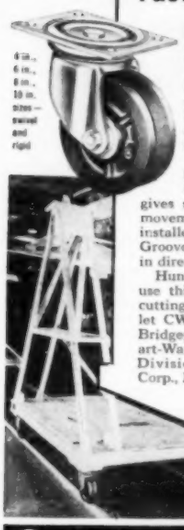
Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

Send for Catalog • Dept. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

BREVITY—Identify by IEN - 5636 if you write the maker

Faster production is IN THE GROOVE!



For faster, easier-moving, more economical assembly lines, use Bassick Grooved-Wheel Casters on simple angle iron floor track.

It's ideal for moving loads frequently in the same direction. Takes less floor space . . . gives smoother handling, controlled movement, flexibility. Track is easily installed, inexpensive, self-cleaning. Grooved wheels operate on track or in direct contact with floor.

Hundreds of manufacturers now use this rapidly-growing method of cutting handling costs. Write for Booklet CW-49. THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. *In Canada:* Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

BaSSick MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

BREVITY—Identify by IEN - 5637 if you write the maker

FROM KANSAS CITY TO KOREA...

The economical answer to your Method-II protective packaging requirements is DESICCITE #25* dehydrating agent, fully approved by all branches of the Armed Services. Manufacturers everywhere are now eliminating losses from moisture damage by the use of highly efficient, odorless, inert Desiccite #25. Protect your products during storage, shipment, and shelf-life with Desiccite #25.

Desiccite #25 *is immediately available in a wide range of bag sizes through conveniently located distributors.*

★ *Write today for full information.*

DESICCANT DIVISION **Filtrol** CORPORATION

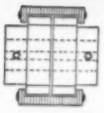
General Offices: 727 West Seventh Street, Los Angeles 17, California

*T. M. Reg. U. S. Pat. Off.

BREVITY—Identify by IEN - 5638 if you write the maker

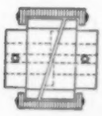
TWO TYPES FOR LIGHT AND HEAVY DUTY

RAMSEY FLEXIBLE COUPLING



STRAIGHT TYPE

For light loads to 300 HP capacity in eleven sizes from ½" bore. Simple, compact design with steel pinions cut straight and chain acting as flexing member. Easily installed, aligned and disconnected.



DIAGONAL TYPE

For loads up to 600 HP in speed ranges to 3600 R.P.M. in ten sizes from ½" bore. Rugged design and construction features steel pinions cut diagonally to allow use of full width of chain under tension.

Write Today for "THE COUPLING BULLETIN"

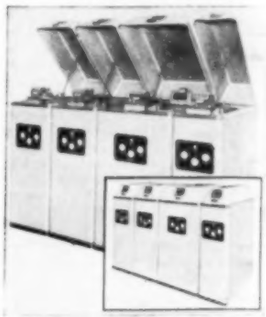
SILENT CHAIN DRIVES—FLEXIBLE COUPLINGS

RAMSEY CHAIN COMPANY, INC.
5152 BROADWAY • ALBANY, N. Y.

BREVITY—Identify by IEN - 5639 if you write the maker

FEEDING . . Meters and controls to feed two or more liquids for blending

Source: BOWSER INC.
1338 Creighton Ave., Fort Wayne 2, Ind.



Individual units in a new multiple-unit blending assembly employ fluid meters and associated controls through which a desired number of liquids can be fed for blending at a common point of delivery. Each meter can be set for a desired feed rate. Total throughput is accumulated on a master counter and each separate liquid is recorded separately on its own meter.

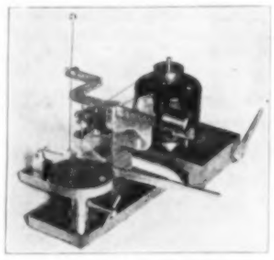
The master counter can be supplied with a predetermining device and a ticket printer. A printer can also be assembled on each unit. Failure of any liquid supply shuts down the assembly. If the supply to any meter slows down for any reason, all will automatically change their rates accordingly.

Each unit in an assembly is available in 18 and 25½-in. widths. Height with the lids closed is about 53 inches. Assembly between units requires an additional ½ in. per unit. Dials and gages are visible from the outside of the housing which is in dust-resistant construction.

BREVITY—Identify by IEN - 5640 if you write the maker

DRILLING . . Sensitive machine, touch feed to drill very small holes

Source: NATIONAL JET CO.
113-17 Milton Place, Cumberland, Md.



A drill and a special shank are permanently assembled and are ground, lapped and pointed as a single unit. The shank is then fitted with a small sleeve and acts as the spindle in this new sensitive machine. Rotation is in a pair of V-blocks faced with synthetic material. The belt connecting the small vertical motor to the spindle is made of fish line.

The motor is positioned so its sheave is a little above the spindle sheave in order to hold the spindle upward against the counterweighted feed arm. A pin connects this arm with the hand feed lever on the base beside the work table. Holes measuring 0.001 in. in diameter and smaller can be drilled without difficulty.

The machine will reach to the center of a 4-in. circle. Feed is through ½ inch. Maximum spindle diameter is 3/32 inch. Maximum distance from the spindle end to the work table is 1⅝ inches. The machine measures 10 by 14 by 8¾ inches. It weighs 14¾ lb. in standard design.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5641 if you write the maker

Over 85% of the torque wrenches used in industry are

Sturtevant TORQUE WRENCHES

Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
...inch pounds
...foot pounds
(All sizes from 0-6000 ft. lbs.)

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P.A. STURTEVANT CO
ADDISON QUALITY ILLINOIS

BREVITY—Identify by IEN - 5642 if you write the maker

HANNIFIN

75 STANDARD MODELS

Hydraulic Presses

Engineered To Meet Your Requirements

IT'S EASY to get hydraulic presses engineered to meet your particular requirements when you choose from the Hannifin line. 75 standard models, plus many special designs, in capacities ranging from 5 to as high as 500 tons are available for handling standard and special production jobs: straightening—press fit assembly—forming—molding—broaching and similar operations. Hannifin design readily permits modifications or variations from standard at moderate cost. Table size, gap, reach, control equipment, and ram speed can be altered easily to suit special conditions. Take advantage of Hannifin engineering service — ask for recommendations.

Right—Model F-250 forcing press. Capacity 25 tons.

SEND FOR THIS CATALOG

BULLETIN 130, "Hannifin Standardized Hydraulic Presses," contains detailed information on Series F Forcing Presses, Series S Straightening Presses, and Series C Column Type Presses — Helpful specification and engineering data. ASK FOR YOUR COPY.

HANNIFIN CORPORATION 1107 S. Kilbourn Ave., Chicago 24

BREVITY—Identify by IEN - 5643 if you write the maker

make Stronger solder joints Quicker and Cheaper!

IDEAL Thermo-Grip®

Using "Fork" in tight space to "pin-point" the heat.

STRONGER—resistance heating provides ample concentrated heat—assures full adhesion of solder.

QUICKER—heating begins instantly. No preparation, no pre-heating, no set up.

CHEAPER—no wasted time or current. No chance of melting nearby joints or burning parts. No risky open flame.

Proved by thousands of manufacturers. Sizes for every soldering or brazing job.

"Standard" 1000-Watt Model with "Plier", "Fork" and "Pencil" attachments also available.

FREE TEST! You Be the Judge

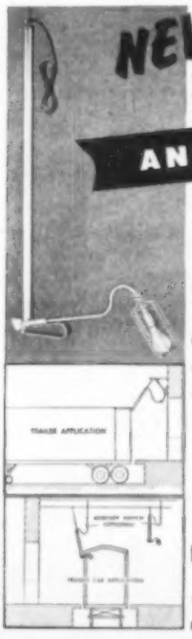
IDEAL INDUSTRIES, Inc.
1100 Park Ave.
Sycamore, Illinois

Please arrange FREE Thermo-Grip demonstration and send catalog data.

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

BREVITY—Identify by IEN - 5644 if you write the maker

NEW PYLE-NATIONAL ANCHORLITE



THE SUSPENDED INSIDE AND UNDERSIDE ILLUMINATOR

For *Expediting* Loading of freight cars, trucks and trailers

- Self Retracting
- Self Anchoring & Adjusting
- Self Releasing

Saves man hours
Reduces maintenance and Replacement Costs
Reduces fire and accident hazards

Write for Anchorlite Bulletin

THE PYLE-NATIONAL COMPANY

1348 N. Kostner Ave. Chicago 51, Illinois
Agents and Representatives in the Principal Cities of the United States and Canada

BREVITY—Identify by IEN - 5645 if you write the maker

SARCO WATER BLENDERS

A 3-way mixing valve which provides any set temperature regardless of the incoming hot or cold water pressures and temperatures. Used for washrooms, process work and engine jacket cooling. Several types available; sizes ½" to 4". Cat. No. 800.

292

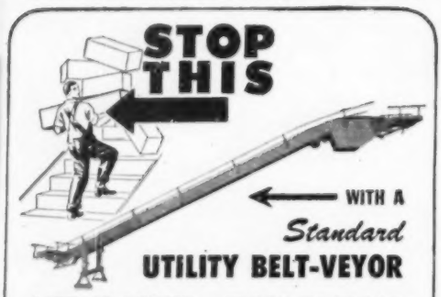
SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 5, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

BREVITY—Identify by IEN - 5646 if you write the maker

STOP THIS



WITH A *Standard* UTILITY BELT-VEYOR

LIFT OR LOWER—FLOOR TO FLOOR OR CONVEY HORIZONTALLY

MOVE boxes — cartons — crates — sacks and bundles from basement to first floor, or any floor to floor, or convey in a straight line — continuously with the Standard UTILITY BELT-VEYOR. A compact, pre-engineered unit, easy to install (over existing stairways where practical) handles commodities up to 150 lbs. — available in 4 belt widths — 10, 14, 20 and 24 inch — and equipped with adjustable guard rails to facilitate handling packages wider than belt. Electric motor operated. Write for Bulletin IEN-61.

Standard Conveyor Company
North St. Paul
Minnesota

Sales and Service in Principal Cities

Standard GRAVITY & POWER CONVEYORS

BREVITY—Identify by IEN - 5647 if you write the maker

Gears by FAIRFIELD

TWO sets of spiral bevel gears produced by Fairfield interconnect the dual crankshafts of the opposed piston diesel engines in the locomotive shown above, which is one of an ever-increasing fleet serving America's railroads. Diesel locomotives are just one of the many types of equipment that have benefited from Fairfield's pioneering work in producing high precision, automotive type gears to meet virtually any required specification of industry. If gears are a part of the product you make, get acquainted with Fairfield. Write today.

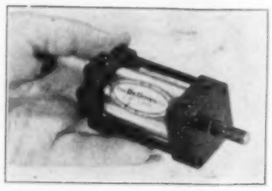
Ask for a copy of bulletin describing Fairfield facilities.

FAIRFIELD MANUFACTURING CO.
315 So. Earl Avenue • Lafayette, Indiana

BREVITY—Identify by IEN - 5648 if you write the maker

CYLINDER . . Single acting pneumatic, spring return, 1⅛ in. bore diameter

Source: BELLOWS CO.
230 W. Market St., Akron 9, Ohio



Thrust rating is approximately equal to applied air pressure in this new miniature pneumatic cylinder. It is trade named Han-D-Air and has been developed for use in jigs and fixtures and for parts positioning and ejection in machines within its application range.

Dimensions are 4½ by 1½ by 1½ inches. Stroke measures 1 inch. The ⅜-in. piston rod is threaded to ½ in. back from its end. The cylinder is made of brass. The heads are aluminum, ⅝ in. in thickness. The piston is sealed with an oil-resistant cup gasket. Mounting can be in any position. List price is $6 for a single unit, $66 per dozen.

BREVITY—Identify by IEN - 5649 if you write the maker

SAWING . . Attachment for drill will reciprocate a saw blade or a file

Source: E-Z WAY TOOL CO.
551 W. Washington St., Chicago 6, Ill.

The company announces take-over of manufacture and sale of the E-Z saw attachment, previously described IEN-586-49. The unit converts rotary movement of a portable drill or flexible shaft to ⅞-in. reciprocation to drive a saw blade or a file. Two models apply on ⅜ and ½-in. driving spindles. Complete assemblies including the portable tool can be specified.

BREVITY—Identify by IEN - 5650 if you write the maker

MAGNIFYING . . Adjustable hand unit, aluminum base, threaded lens holder

Source: EDMUND SCIENTIFIC CORP.
51 Anchor St., Dept. 36, Barrington, N. J.

The eye lens in this new magnifier measures 1⅞ in. in diameter. The objective lens measures 1⅜ inches. Both are assembled in a cylindrical holder that threads into the aluminum body for vertical adjustment. A lock ring holds a set position. Two models include a 5X unit listing at about $13 and a 6½X unit listing at $16. The lenses are set in neoprene gaskets to seal out dust and moisture.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5651 if you write the maker

TORNADO®

Wet or dry—positive pick-up!

Vacuum Cleaner

For over 30 years, Tornado has been used in hundreds of industrial plants, hotels, restaurants, hospitals, schools and other institutions. Tornado saves time, cuts maintenance costs, can be operated by inexperienced personnel. Sturdy, lightweight, gives years of trouble-free service. Quickly adaptable to any cleaning chore. Free demonstration—write for name of nearest representative.

FREE! Bulletin 600-IE6

BREUER ELECTRIC MFG. CO
9100 N. HAVENWOOD AVE. • CHICAGO 40, ILL.

BREVITY—Identify by IEN - 5652 if you write the maker

Keep Floors CLEAN — and SAFE!

KENT

DRY SCRUBBER

Clean, safe floors keep production rates up and accident rates down! The KENT D-20 DRY SCRUBBER does the job — tackles impacted dirt and grease accumulations with a vengeance! Send for free literature—see what KENT can do!

KENT Brushes are self-sharpening

Five individual brushes rotate as a unit . . . and maintain top cutting efficiency as they work.

KENT DRY SCRUBBER Model D-20

Manufacturers of KENT Floor Machines, KENT Commercial Vacuum Cleaners, KENT Flux Recovery Units, KENT Furnace Cleaners

CLEAN WITH **KENT** EQUIPMENT

THE KENT CO. INC., 437 CANAL ST., ROME, N. Y.

BREVITY—Identify by IEN - 5653 if you write the maker

MACHINE LOADING, SCHEDULING, DISPATCHING AND JOB ASSIGNMENT

Bulletin outlining procedure widely used for these cost-cutting results now available:

Visual Scheduling . . . a glance at Board shows work ahead for each machine or man.

Order Sequence . . . quickly indicated by arrangement of tickets representing orders.

Schedule Changes . . . easily specified by rearranging tickets in revised sequence.

No Delay Between Planning and Dispatching . . . no lists or records to write.

Operation According to Plan Assured.

Readily Adapted . . . to production, assembly, maintenance, engineering and work of every variety, using work orders, time tickets, move tickets, tabulating cards, etc. and McCaskey Machine Control Boards.

Write today for your copy of illustrated Bulletin A-630 IEN containing all the facts.

The McCaskey Register Company, Alliance, Ohio

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

BREVITY—Identify by IEN - 5654 if you write the maker

• **FLINTZ** the thin section (⅛" Maximum) hard surfacer, extremely durable, and low traction. **FLINTZ** is a completely prepared ready-mix, QUICK-TO-SET. It spreads like moist sand . . . is rolled solid and ready for use after drying from one to five hours. Flintz quick to set allows trucks to roller coast after pulling has stopped. Feather edges will not give way.

For Years of Low Traction and Hard Floor Service . . Use

a 55 gallon drum covers about 350 to 450 square ft.

WRITE FOR NEW BROCHURE

dura-tred Co. 352 N. Central Pk. Blvd., Chicago 24, Illinois

BREVITY—Identify by IEN - 5655 if you write the maker

There's a difference between COMPACTNESS and SPACE ADAPTABILITY...

The MULTICLONE has BOTH!

IN SELECTING dust recovery equipment, every foot of space saved is that much more valuable area available for other equipment. And the compactness of the equipment you select is just one of several ways to save plant space. Equally important is the *adaptability* of the equipment to space limitations within an existing plant.

And this is how the MULTICLONE *makes two-way savings in space:* The MULTICLONE itself is unusually compact, requiring as little as 1/6 the floor space, ¼ the cubic space of other units of comparable performance.

In addition, the shape of the MULTICLONE is readily adaptable to various space requirements and can be varied to fit odd-shaped or restricted areas that would otherwise be waste space.

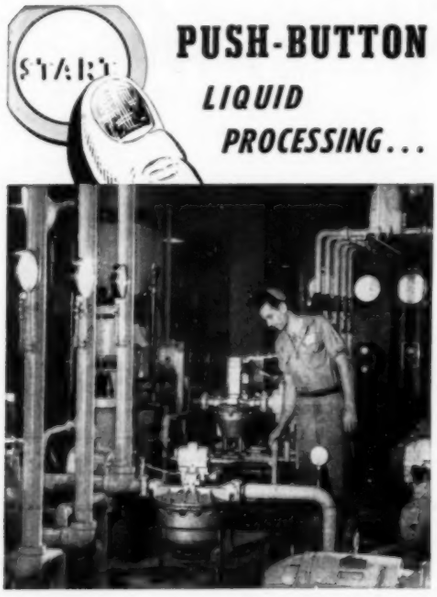
For this reason you can fit the MULTICLONE into unbelievably small spaces, thus saving valuable plant area. But space-saving is just one of many MULTICLONE advantages. It is unusually efficient . . . has no high-speed moving parts to maintain, no screens to clean or replace . . . is simple to install, easy to service . . . and has many other important advantages.

Get the full story by sending for this MULTICLONE booklet

WESTERN Precipitation CORPORATION

Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LaSALLE ST. BLDG., 1 N. La SALLE ST., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

BREVITY—Identify by IEN - 5656 if you write the maker



PUSH-BUTTON LIQUID PROCESSING...

Here's the way to CUT CORNERS in your liquid processing operations. It's as easy as push-button tuning on your radio.

And all you do is PUSH A BUTTON to distribute liquids from storage tanks direct to mixers.

Bowser processing meters cut out double pumping, measuring tank or tank scales. You get hairline accuracy in predetermined quantities . . . constantly uniform products . . . more output.

•

Bowser's nearest process engineer will welcome an opportunity to discuss your plant's liquid handling problems with you. If you prefer, we'll gladly send you our latest literature.

•

BOWSER ESTABLISHED 1885

BOWSER, INC.
1338 CREIGHTON AVENUE
FORT WAYNE 2, INDIANA

LIQUID CONTROL SPECIALISTS SINCE 1885

BREVITY—Identify by IEN - 5658 if you write the maker

METER . . Millivoltmeter reads pressure, speed, temperature

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.

A galvanometer is mounted in plug-in assembly in this new indicating millivoltmeter. It has been designed for actuation by any source of millivoltage such as a thermocouple, Radiamatic pyrometer, tachometer, resistance thermometer. It is intended for use in processing operations with calibration as specified.

Assembly is in a dust-tight housing. The calibrated measuring mechanism, scale, pointer and mirror are in protected positions. Servicing is simplified by the plug-in galvanometer.

BREVITY—Identify by IEN - 5659 if you write the maker

WRENCH . . Socket head set assembles five wrenches in a holder

Source: H. D. HUNTER & CO.
3497-501 E. 14th St., Los Angeles 23, Calif.

List price is $1.50 for this new Smitty socket-head wrench set. It assembles wrenches measuring 3/32 to 7/32 in. for No. 10 to 5/16-in. set screws and No. 5 to 5/16-in. cap screws. A similar assembly includes six individual wrenches for set screws from No. 3 to 1/2 in. and cap screws from No. 1 to No. 12.

BREVITY—Identify by IEN - 5660 if you write the maker

RESISTOR . . Wire wound unit to meet joint Army-Navy specifications

Source: OHMITE MFG. CO.
4981 Flournoy St., Chicago 44, Ill.

A total of 33 styles of resistor to meet specification JAN-R-26A and 11 models of rheostat meeting specification JAN-R-22 are included in the company's new line of wire-wound resistors and rheostats for military equipment uses.

Five types make up the 33 styles to include units with tab terminals, tab terminal with a hole to clear a No. 8 screw, ferrule terminal, flat type with tab terminal and axial terminal. Each is available in a range of sizes and ratings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5661 if you write the maker

TWO REASONS WHY

MAUREY FHP V-DRIVES

BELONG ON YOUR PRODUCT

1. PROMPT SERVICE
No production delays waiting for Maurey V-pulleys, V-Belts, or V-Drives. Fast Maurey service helps speed your output.

2. TOP QUALITY
Maurey V-Drives *add* sales appeal to your product at no added cost. Attractive Pressed Steel V-Pulleys and machined, smartly finished Cast Iron V-Pulleys *look* like the top quality they are. MOR-GRIP V-Belts are built to exacting Maurey specifications for maximum flexibility, pull-power and long life.

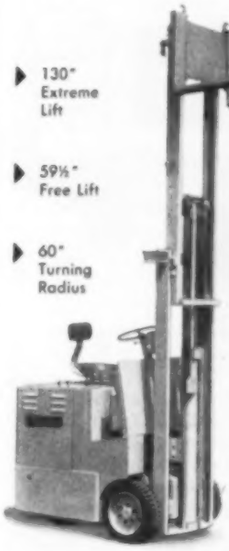
Maurey Also Builds Special V-Drives For Special Requirements

Write for these FREE Maurey Bulletins:
Bulletin FHP-101 informs about MOR-GRIP V-BELTS
Bulletin OEM-2000 informs about HI-Q V-PULLEYS

PROMPT DELIVERY from complete stocks of all V-Drive Parts

MAUREY MANUFACTURING CORP.
World's Largest Manufacturer of Pressed Steel and Cast Iron Single Groove V-Pulleys
2916 S. Wabash Avenue • Chicago 16, Illinois

BREVITY—Identify by IEN - 5662 if you write the maker



- 130" Extreme Lift
- 59½" Free Lift
- 60" Turning Radius

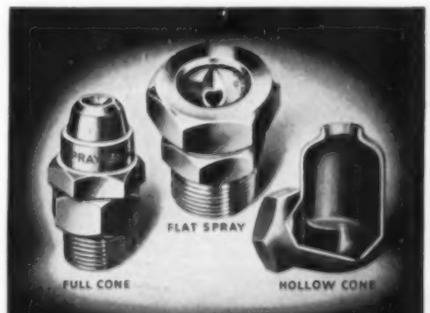
Mercury JEEP

MODEL 230
2000 Lb. Capacity
Tilting—Tiering

The most versatile fork truck of 2000 lb. rating. 130" lift with ample stability...60" turning radius *plus* inclined automotive steering . . . foot pedal acceleration . . . convenient controls and many other design advancements. For complete details request Bulletin 230.

MERCURY MANUFACTURING COMPANY
4132 S. Halsted Street • Chicago 9, Illinois

BREVITY—Identify by IEN - 5663 if you write the maker



SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

BREVITY—Identify by IEN - 5664 if you write the maker

Hein-Werner Hydraulic Jacks are basic maintenance tools!

You'll save time and money at maintenance jobs when you put Hein-Werner Hydraulic Jacks to work for you. A versatile package of hydraulic power for bending, pressing, pushing or lifting operations. Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity. See your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION
WAUKESHA, WIS.

BREVITY—Identify by IEN - 5665 if you write the maker

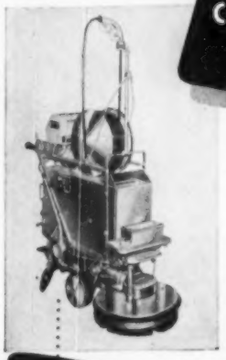
LANCO INDUSTRIAL TRAILERS are built to last!

20 and 25 year records of daily service are not uncommon for Lanco Industrial Trailers built under Lansing Company's policy of good design, select materials and skilled craftsmanship. Popular Lanco Model 795 illustrated is one of the many models available with a wide choice of wheel styles and racks. Write today for information on units that will exactly fit your trailer requirements.

LANSING CO. LANCO MATERIAL HANDLING EQUIPMENT — LANSING, MICHIGAN

BREVITY—Identify by IEN - 5666 if you write the maker

NEW Self-Propelled SCRUBBER-VAC.... .... CUTS CLEANING TIME 2/3!



For **Small-Area Factories (2,000 to 15,000 sq. ft. of floor)** The *new 418P Finnell Scrubber-Vac* cleans floors in *approximately one-third the time* required with a conventional 15 or 18" scrubber-polisher. And the *new 418P* also handles the dry work — polishing, steel-wooling, etc. Has 18" brush ring. Vacuum performs *quietly*. The machine can be leased or purchased.

Applies cleanser, scrubs, rinses, and picks up in ONE operation!

FIND OUT WHAT YOU WOULD SAVE... with a *Finnell Scrubber-Vac. Finnell* makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2606 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC. *Pioneers and Specialists in* FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES — BRANCHES IN ALL PRINCIPAL CITIES

BREVITY—Identify by IEN - 5667 if you write the maker

GREATER STRENGTH? LIGHTER WEIGHT? **LIKE TO GIVE YOUR PRODUCT** LONGER LIFE? BETTER APPEARANCE? LOWER COST? FASTER PRODUCTION?

Typical of Hackney Deep Drawing is this flanged seamless shell, 8½" in dia., 26" long, it's used as a reservoir for a refrigerating unit.

Perhaps a Hackney Deep Drawn Shape or Shell can help you. Many manufacturers in many industries have gained such advantages—by using a Hackney Shell instead of a casting or welded part. We make Hackney Shapes and Shells in numerous metals, including the new high-strength alloys—as small as 1 qt. capacity and as large as 110 gal. capacity. Send us a sketch of your part—and see if our specialized experience of almost 50 years can help you.

Hackney PRESSED STEEL TANK COMPANY *Manufacturer of Hackney Products*

1449 S. 66th St., Milwaukee 14 • 1322 Vanderbilt Concourse Bldg., New York 17 • 253 Hanna Bldg., Cleveland 15 • 936 W. Peachtree St., N.W., Room 136, Atlanta 3 • 208 S. LaSalle St., Room 786, Chicago 4 • 577 Roosevelt Bldg., Los Angeles 14

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, slide films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are named.

BREVITY—Identify by IEN - 5668 if you write the maker

ALLOYS . . Research on copper alloys reported in bulletin on condenser tube performance

Revere Copper & Brass Inc.
230 Park Ave., Room 2620, New York 17, N. Y.

Research on the causes of corrosion and means of correcting it are set forth in new 28-page bulletin, "Life Extension for Condenser Tubes." Topics include preventive metallurgy, development work on alloys, quality control, examples.

BREVITY—Identify by IEN - 5669 if you write the maker

BEARINGS . . Decimal equivalent chart prints them in table on letter-size wall card

Johnson Bronze Co.
601-5 S. Mill St., New Castle, Pa.

Available on request is new 8½ by 11-in. chart of decimal equivalents for common fractions from 1/64 to 1 inch. Thirty-second fractions are in color. Margins give notes on scope of the company's production of bronze and bronze bearings.

BREVITY—Identify by IEN - 5670 if you write the maker

BELTS . . Wall chart on belt care lists 14 maintenance suggestions with reasons

Cling-Surface Co.
1030 Niagara St., Buffalo 13, N. Y.

Little sketches illustrate the suggestions in new 13½ by 21-in. wall chart, "How to Care for and Maintain Your Belt." Suggestions on power transmission belts range from selection of proper width to keeping inspection and treatment records.

BREVITY—Identify by IEN - 5671 if you write the maker

BOILERS . . Seven steam generators heat the water and building in a railroad laundry

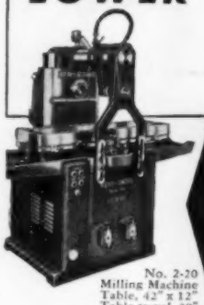
Vapor Heating Corp.
4503 W. 16th St., Chicago 23, Ill.

New multiple application has been made for the company's Model-4740 Vapor-Clarkson steam generators, initially for diesel locomotives. The seven units develop 250 lb. pressure in 2 min. from cold water to supply laundry steam.

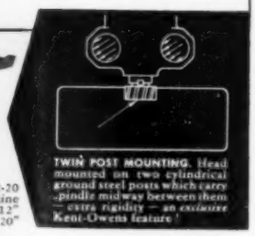
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5672 if you write the maker

LOWER MILLING COSTS!



No. 2-20 Milling Machine Table, 42" x 12" Table travel, 20"



TWIN POST MOUNTING. Head mounted on two cylindrical ground steel posts which carry spindle midway between them — extra rigidity — an *exclusive* Kent-Owens feature!

Kent-Owens builds 'em *rugged . . . simple . . .* and *versatile . . .* machines adaptable to countless milling jobs. Designed for rapid, easy set-up and cost-saving operation. Extra rigid head mounting assures balanced load. Greater cutting efficiency with smooth, powerful cutter drive—only two gear contacts, motor to cutter. Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machines Co., Toledo, Ohio.

KENT-OWENS *Milling Machines*

BREVITY—Identify by IEN - 5673 if you write the maker

World's Most Versatile Metal Saw

MARVEL No. 8, Capacity 18" x 18"

There is no other sawing machine like it. The work remains stationary. The blade is guided with a 90° twist and power fed vertically through the work. The saw blade and column can be instantly swung and clamped at any angle to 45° either right or left from vertical for miter cutting.

The number 8 MARVEL saw will handle the smallest, as well as the largest work up to 18" x 18". It will cut-off, trim, miter, notch, and split all bar stock, pipe, structural sections, moulding, tubing, or irregular shapes.

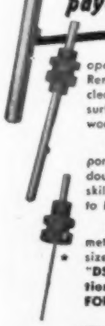
Write for our catalog, containing valuable information, enabling you to select a metal saw best suited to your work.

MARVEL *Metal Cutting* **SAWS** — Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO. *"The Hack Saw People"* 5700 Bloomingdale Ave. Chicago 39, U.S.A.

BREVITY—Identify by IEN - 5674 if you write the maker

Machine de-burring with NOBUR pays BIG production dividends!



NOBUR Tools *turn a slow bench operation into fast and efficient machine work!* Remove burrs on multi-walled parts with a smooth, clean cutting action that won't mar highly finished surfaces. Eliminate rejects from slow, costly hand work with files, scrapers and abrasives.

Nobur Tools are used on any lathe, drill press, portable drill or flexible shaft. Operation of the double-edge cutting blade is easy and safe . . . no skilled help is required, and the spindle never needs to be stopped for either de-burring or chamfering.

Nobur Tools cut freely on either hard or soft metals, are simple in construction and are made in sizes to cover a full range of hole diameters. ***NEW "DS" SERIES extends range of NOBUR applications to holes as small as 1/8" diameter. WRITE FOR FULL DETAILS TODAY!**

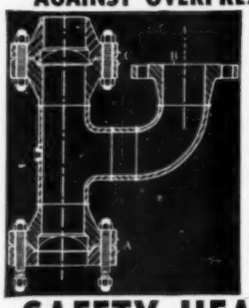
Parts like these quickly de-burred with NO/BUR TOOLS

NOBUR MANUFACTURING COMPANY 717 N. VICTORY BLVD., BURBANK, CALIF.

BREVITY—Identify by IEN - 5675 if you write the maker

TRIPLE PROTECTION

AGAINST OVERPRESSURE LOSS!



Your relief valve (B) will function immediately when the disc ruptures at SAFETY HEAD (A). If the valve is inadequate, the pressure will continue to rise to the rupture pressure of SAFETY HEAD disc (C). A much greater discharge will then be realized because of the full pipe-sized, unrestricted opening!

SAFETY HEAD DUAL ASSEMBLY

SAFETY HEAD (A) and relief valve are primary relief; SAFETY HEAD (C) is secondary. Protects relief valve from contamination. Acts instantly. Fabricated to your order.

Free catalog, specifications, prices available. Write today.

BS&B BLACK, SIVALLS & BRYSON, INC. Advertising Department, Room 311L, 7502 East 12th St. Kansas City 3, Mo.

BREVITY—Identify by IEN - 5676 If you write the maker

SAVE on OPERATING COSTS and RENT with CARD *Sturdi-Lite* SAFETY LADDERS

EASY to move around, SAFE to work on, handy shelf or basket at top. Amazingly LIGHT WEIGHT but STRONG tubular ALUMINUM construction, including hand rails. Sturdy one-piece steps, non-skid rubber treads. Ball-bearing casters on two rear legs and front Swiveling Caster. Heavy coil spring keeps the two front rubber feet off floor until a person steps on ladder, then they lower and rest securely on floor.

MANY Time-Saving USES in factory assembly lines, maintenance work, stock, tool and file room, etc.

SAVE SPACE—stack things HIGH in files, shelves, bins, lockers, etc. They're easy to get at, with CARD SAFETY LADDERS.

For NARROW ISLES — 18" width in 3-step, 4-step and 5-step with shelf or basket at top.

For WIDE AISLES — 24" width in 4-step, 5-step and 6-step with shelf only at top.

ALSO 2-step Stools and Rollaways.

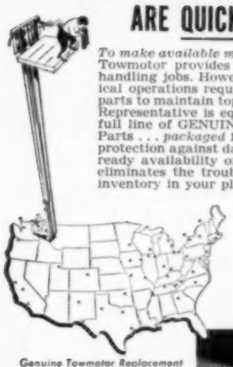
Write.

D. R. CARD COMPANY
National Distributor
829 MERCHANDISE BLDG.
MINNEAPOLIS 3, MINN.
Mfrs.: BURD METAL PRODUCTS
Clearwater, Fla.

BREVITY—Identify by IEN - 5677 If you write the maker

EVERYWHERE YOU LOOK!

TOWMOTOR REPLACEMENT PARTS ARE QUICKLY AVAILABLE



To make available man-power more productive, Towmotor provides continuous service on all handling jobs. However, even normal mechanical operations require occasional replacement parts to maintain top efficiency. Your Towmotor Representative is equipped to help you with a full line of GENUINE Towmotor Replacement Parts . . . *packaged* for quick identification and protection against damage. This service assures ready availability of any Towmotor part, and eliminates the trouble of maintaining a parts inventory in your plant.

Available through your Towmotor Representative, Towmotor Preventive Maintenance Service assures extra years of profitable operation and trouble-free service. Write for full details.

TOWMOTOR CORPORATION,
Div. 26, 1226 E. 152nd St., Cleveland 10, Ohio.

Genuine Towmotor Replacement Parts are delivered to you in perfect condition in this specially designed package.

TOWMOTOR
THE ONE-MAN-BANG
FORK LIFT TRUCKS and TRACTORS
Receiving • Storage • Processing • Distribution

12 Models—
A Towmotor for every job

BREVITY—Identify by IEN - 5678 If you write the maker

MODERN FUNCTIONAL DESIGN WITH

THE SELF-CLOSING Flush Latch

HARTWELL H-4000

The unique design of the Hartwell H-4000 latch makes it extremely versatile with virtually no limitation to its application in the normal range of latch usage. It is equally adaptable to interior or exterior installation in sheet metal, plastics, plywood or solid wood, and its design makes possible the use of almost any type of operating handle. A door or access plate equipped with the H-4000 can be latched by simply pushing it closed. There are no levers to be pushed or pulled into place.

Write for new Flush Latch and Hinge Catalog.

HARTWELL COMPANY
9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

NEWS NOTES—Continued

"Questions and answers on vapor degreasing"

BREVITY—Identify by IEN - 5679 If you write the maker

CASTERS . . How to select and maintain them described in new catalog

Divine Brothers Co.
208 Seward Ave., Utica 1, N. Y.

Introductory section in new 44-page Catalog 25 uses drawings and text to describe selection of wheels and casters for trucks. It is followed by application suggestions and notes on maintenance. Balance of the catalog presents dimensions and ratings on wheels and casters in the form of tables.

BREVITY—Identify by IEN - 5680 If you write the maker

CLEANING . . Useful information booklet presents questions and answers on vapor degreasing

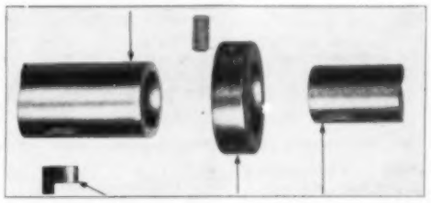
Phillips Mfg. Co.
3473-77 W. Touhy Ave., Chicago 45, Ill.

Forty questions and answers are presented in revised edition of the company's "Vapor Degreasing Handbook." They range from "What is vapor degreasing?" to "What else can we use degreasers for?" The 32-page booklet uses pictures and text to answer the questions in straightforward manner.

BREVITY—Identify by IEN - 5681 If you write the maker

DRIVES . . Rigid shaft coupling newly patented, for license or made to order

Conn & Co.
1528-32 Pennsylvania Ave. W., Warren, Pa.



Rigid coupling, originally developed for the company's mixing machine, now is available for license manufacture by others. The company also will make it to order in any desired size. Design is such that one shaft fits inside a concentric opening in the other. A slot in the wall of the hollow shaft allows a key to be inserted through the outer shaft into a keyway in the inner shaft. A collar and setscrew secure the key in place. The assembly can be used in any position, is demountable with standard tools, has minimum of projections.

BREVITY—Identify by IEN - 5682 If you write the maker

DUST COLLECTING . . New house publication describes developments in dust and fume control

American Wheelabrator & Equipment Corp.
553-57 S. Byrkit St., Mishawaka, Ind.

"Industrial Ventilation" in its first issue describes four examples of how dust-collecting equipment is being used to salvage valuable materials and make for good working conditions. It describes cloth filtration of dusts. Your name will be added to mailing list to receive this and future issues.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5683 If you write the maker

FULL VOLUME HIGH PRESSURE
. . . BUT LOW HORSEPOWER
with

RACINE *Hydraulic* **PUMPS**

High pressure holding is economical with RACINE Variable Volume Pumps. They will automatically cease their pumping action but maintain full pressure in the system. Instant change from no volume to full volume insures smooth, sure application of hydraulic force. Horsepower requirements are measured by the actual needs of the job — all of the oil is put to work.

RACINE Variable Volume Pumps eliminate the need for relief valves — reduce oil heating — save horsepower and lower the over-all cost of most circuits.

Various standard governors are available for RACINE Pumps. These governors develop the pumping action that will best handle special requirements of the circuit. Maximum efficiency is assured.

Write for complete catalog and engineering data.

RACINE
TOOL & MACHINE COMPANY
1761 State Street, Racine, Wis., U. S. A.
STANDARD FOR QUALITY AND PRECISION

BREVITY—Identify by IEN - 5684 If you write the maker

KOROSEAL TANK LININGS

Longer Wearing
Corrosion Resistant
No Contamination

Developed and pioneered by Udylite, Koroseal "welded" tank linings are ideal for metal finishing operations. Koroseal resists virtually all acids and corrosive solutions. It shows minimum absorption of chemicals and will not contaminate the plating bath. Koroseal is not affected by oil or grease and is highly resistant to abrasion. It will not oxidize or plate up, and its high electrical resistance prevents current loss.

Udylite Koroseal tank linings are applied at the factory by specially trained workmen using equipment and methods developed by Udylite for this express purpose. However, if conditions require, tank linings can be successfully applied by Udylite craftsmen in your plant. For more information about Udylite Koroseal tank linings call your Udylite Technical Man or write direct.

Pioneer of A Better Way in Plating

THE *Udylite* CORPORATION

BREVITY—Identify by IEN 5685 If you write the maker

MODEL JA
50,000 R.P.M.
Weight 12 ounces; length 6⅝ inches; chuck size ⅛ inch. Wheel guard removed for better illustration.

$42 IN U.S.A.

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

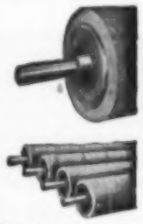
It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

BREVITY—Identify by IEN - 5686 If you write the maker

MANY INDUSTRIAL ROLL PROBLEMS are solved by using



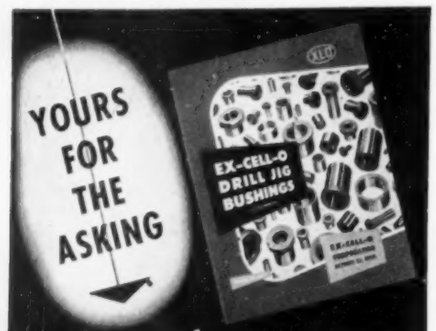
SHAF-TITE* ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.
*Reg. U. S. Pat. Off. 273 Main Street, Orange, Mass.

BREVITY—Identify by IEN - 5687 if you write the maker



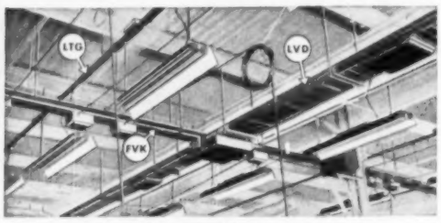
EX-CELL-O's
COMPLETE BUSHING GUIDE

Here is the bushing buyer's most useful tool—a complete listing of styles and sizes of A.S.A. Standard Drill Jig Bushings carried in stock by Ex-Cell-O at Detroit, New York, Los Angeles, and Toronto. If you have not yet received your copy of Bulletin 35371, write to Ex-Cell-O today.

EX-CELL-O CORPORATION
DETROIT 32 • MICHIGAN

51-8

BREVITY—Identify by IEN - 5688 if you write the maker



How to have a
POWER DISTRIBUTION SYSTEM
flexible enough for any emergency

Trumbull FLEX-A-POWER* is a system of busways for low-voltage service . . . furnished in standard pre-fabricated sections, which may be economically dismantled and relocated.

LVD (600-4000 amperes)—service entrance and high-capacity feeder. Can be dismantled, relocated with complete salvability. Bulletin TEB-1.

FVK (225-1000 amperes)—plug-in busway to individual loads. 15 outlets every 10 feet. Save rewiring when loads are relocated. Bulletin TEB-4.

LTG (50 amperes)—plug-in or trolley busway to light-duty loads. Can be instantly tapped at any point. Every inch an outlet. Bulletin TEB-2.

*Reg. U. S. Pat. Off.

TRUMBULL (T) ELECTRIC
DEPARTMENT OF GENERAL ELECTRIC COMPANY
Plainville, Conn.

BREVITY—Identify by IEN - 5689 if you write the maker

ALL INFORMATION, METHODS, AND IDEAS NEEDED TO PRODUCE *BETTER TOOLS AND DIES*

Practical Data on Popular Analyses of Tool Steels, their Selection, Heat Treatment, and Use

in the Revised, Enlarged SIXTEENTH PRINTING of this

TOOL and DIE STEEL HANDBOOK
By Palmer and Luerssen

Here's the BOOK OF ANSWERS for every man responsible for tools and dies. Shows you how to increase your company's production from present equipment—how to reduce toolmaking trial and error, conserve tool steel, avoid die troubles, simplify heat treatment. Gives complete working information on everything from selection of the right steel to heat treating methods and equipment, hardness and toughness testing, latest data on high speed and hot work steels. 564 pages, 395 charts, photos, diagrams give you facts on: how design affects heat treatment, hardenability tests, time required to heat different tools to required hardening and drawing temperatures, furnace atmospheres, quenching, tempering, trouble-shooting.

PLUS 80-PAGE ALPHABETICAL SELECTOR SHOWING WHICH STEEL TO USE FOR ALMOST EVERY TOOL AND DIE. Use this book to train new men and upgrade skilled men.

OVER 100,000 COPIES IN USE! CLIP AND MAIL NOW

THE CARPENTER STEEL CO. • READING, PA. • DEPT. 8X-2
Please send me, postpaid, your revised "Tool Steel Simplified". I enclose $2.00 ($2.50 outside U.S.A.) in full payment of the book.
NAME _____ TITLE _____
FIRM NAME _____
MAILING ADDRESS _____
CITY _____ STATE _____
(Please print)

NEWS NOTES—Continued

"Book on how to run a lathe"

BREVITY—Identify by IEN - 5690 if you write the maker

FASTENINGS . . Demonstration kit to show action of combination sealing washer

Fabricated Products Co.
Box 127-A, Water St., West Newton, Pa.

"Weath-R-Seal" demonstration kit, available from the company on letterhead request, provides means to show how its combination sealing washer performs in service. A piece of steel is threaded for three screws. Each screw has a transparent lucite plastic washer. Under this washer is a neoprene composition washer. Turning a screw by wrench or screwdriver, both included in the kit, extrudes the neoprene washer to seal the screw shank and the outer edge of the top washer. This action can be observed through the clear plastic. Application of the washer is in roofs, walls, ductwork, porcelain-to-metal assemblies, sheet-metal work.

BREVITY—Identify by IEN - 5691 if you write the maker

FLOORS . . Cardboard slide calculator to select desired characteristics of steel floor grating

Blaw-Knox Co.
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.

Size, type, span and strength of "Electroforged" steel floor grating can be determined by new 3¾ by 6-in. Grating Calculator. It reads safe concentrated and safe uniform loads with deflections for desired bar type and size, and size information on stair treads. Please use your letterhead.

BREVITY—Identify by IEN - 5692 if you write the maker

GAGES . . Sound motion picture on gages and tools for dimensional measurement

L. S. Starrett Co.
100 Starrett St., Athol, Mass.

Highlights in the history of dimensional measurement, basic rules to latest precision methods, instructions on reading the micrometer and vernier, are included in the company's 16-mm. film, "Tools and Rules for Precision Measuring." Running time is 30 minutes. Can be reserved for group showing.

BREVITY—Identify by IEN - 5693 if you write the maker

LATHES . . Operator instruction book on the screw cutting lathe and how to use it

South Bend Lathe Works
301 E. Madison St., South Bend 22, Ind.

"How to Run a Lathe," revised Edition 50, is a 128-page book that lists at 25 cents in paper binding, $1 in fabrikoid covers. Its 11 chapters describe installation, turning, boring, drilling, thread cutting, tools, cutting speeds, tolerances. There are 350 illustrations. Also printed in Spanish.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5694 if you write the maker

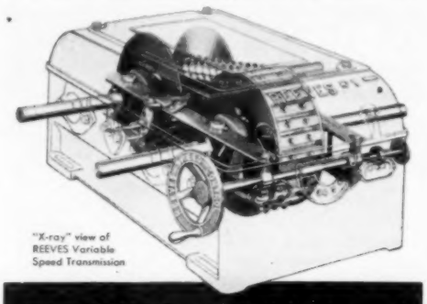
HOW'S THIS FOR SPEED?

● You'd come out second best in a foot race with our Staple Toothed Tiger—just as all other methods of carton closing come out second best when compared to INTERNATIONAL RETRACTABLE ANVIL STAPLE MACHINES. This manufacturer of porch furniture made cumbersome packing easy (and economical) by closing his cartons *from the outside, after they are filled!* Just give us the chance, and we'll prove our Machines' worth to you too!

EST. 1938
THE STAPLE TOOTHED TIGER

INTERNATIONAL STAPLE & MACHINE COMPANY
HERRIN 5, ILLINOIS
DISTRIBUTORS IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 5695 if you write the maker



"X-ray" view of REEVES Variable Speed Transmission

REEVES Variable Speed Transmission

Provides positive, accurate speed changes—without stopping machine—to meet the requirements of every operation and operator, under every changing condition. Easily applied to machines in service—requires no special tools or training to maintain. Horizontal and vertical designs, open or enclosed—in sizes fractional to 87 hp; speed ratios 2:1 through 16:1; manual or automatic controls. Internal operating parts also available for easy incorporation within the framework of your machines. Get full details on the complete REEVES line. Write for free Catalog IN 71-G.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

BREVITY—Identify by IEN - 5696 if you write the maker

REED ENGINEERING COMPANY
MODERN METALWORKING MACHINES

1009 W. Fairview — Carthage, Mo.

IN THREE MODELS:
1000 LBS.
2000 LBS.
3000 LBS.
CAPACITY

WRITE FOR BULLETIN 79

REED WELDING POSITIONER

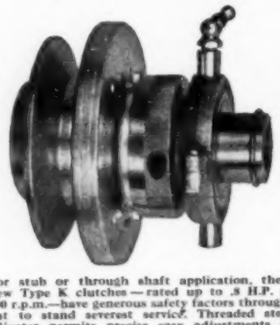
COMPARE THESE FEATURES—
★ SATIN-SMOOTH HYDRAULIC DRIVE
★ STEPLESS, EASY-TO-ADJUST SPEED VARIATION
★ BALL BEARING WORK TABLE MOUNTING
★ RIGID, ALL STEEL CONSTRUCTION
★ ROTATING GROUND CONNECTION
★ HAND OR POWER TILTING

BENDING ROLLS ★ WELDING POSITIONERS & ROLLS
★ OFFSET & CONTOUR FORMERS ★ ASSEMBLY FIXTURES
★ SPECIAL MACHINES & FIXTURES ★

BREVITY—Identify by IEN - 5697 if you write the maker

NEW DISC CLUTCH

for gasoline engines, electric motors, speed reducers, etc.
operates with light pressure
picks up load without grab



integral V-belt pulley
integral sprocket
cut-off coupling or sleeve
easy manual operation
adjustable
powerful

For stub or through shaft application, these new Type K clutches—rated up to .8 H.P. at 100 r.p.m.—have generous safety factors throughout to stand severest service. Threaded steel adjuster permits precise easy adjustments to assure maximum capacity and minimum engaging pressure. Clutch locks itself in engaged position.

Write for new descriptive Bulletin K-1, including complete specifications.

THE EDGEMONT MACHINE CO.
2200 HOME AVENUE • DAYTON 1, OHIO

BREVITY—Identify by IEN - 5698 if you write the maker

AO One Piece ALL PLASTIC GOGGLE

AO's NEW INEXPENSIVE ALL PLASTIC GOGGLE

LIGHTWEIGHT
NON-FOGGING
WELL-VENTILATED
NON-FLAMMABLE
WELL-FITTING

Made of impact resistant plastic, this one-piece goggle (AO479 Clear, AO480 Green) is "optically correct" and meets government specifications. It affords exceptional wide angle vision and can be worn over most standard types of personal glasses and most prescription spectacles and goggles. Recommended for protection against foreign particles striking from any direction on the following types of work: babbiting, chipping, cutting rivets, grinding, hand-tool operations, machine operations, spike driving and similar operations. Your nearest AO Safety Products Representative can supply you.

American Optical
SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

BREVITY—Identify by IEN - 5699 if you write the maker

LOUISVILLE Safe-Weight ALUMINUM PRODUCTS

Aluminum
EXTENSION LADDERS

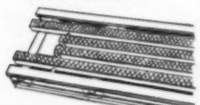
TWO SECTION—THRU 48 FEET
THREE SECTION—THRU 70 FEET

Rugged enduring strength . . . developed by patented method of locking corrugated rungs to side rail. Special extruded aluminum side rail designed for maximum strength. Proven Economy and Safety in service at hundreds of large industrial plants and by countless contractors.

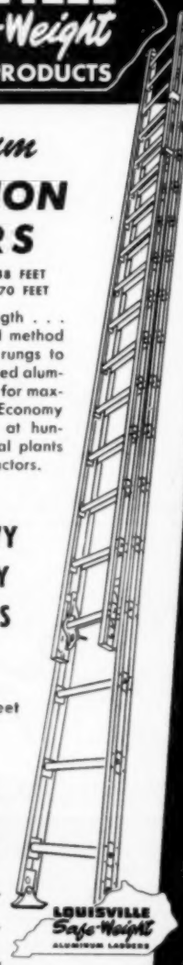
HEAVY DUTY STEPS

2 thru 20 feet

DOUBLE RUNG STEP FOR EXTRA RIGIDITY



PLANKS . . . . 12 in.
STAGES . . . . . 20 in.
6 thru 28 feet
MAXIMUM STRENGTH
LIGHT WEIGHT



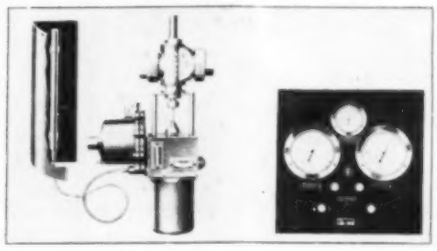
All Louisville Safe-Weight equipment engineered for heavy service. Built of extruded aluminum, fully riveted, complete with aluminum fittings. All Standard ladder and scaffold products included in line. Write for further details.

LOUISVILLE METAL PRODUCTS CO.
1101 W. OAK STREET, DEPT. A, LOUISVILLE 10, KENTUCKY

BREVITY—Identify by IEN - 5701 if you write the maker

CONTROL . . Temperature regulator for steam space heating equipment

Source: SARCOTHERM CONTROLS INC.
2922 Empire State Bldg., New York 1, N. Y.



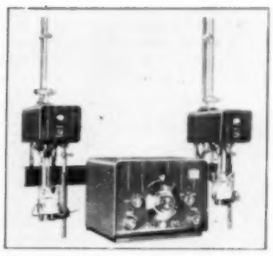
Sarcostat Type W establishes modulating control to the steam supply for a heating installation so the correct amount of steam will be fed to balance heat lost in the area served under changing weather conditions. The steam can be connected directly to radiators or to convectors to heat water for forced hot-water heating. Night shut-down and quick morning pickup can be set at desired times at a control panel. The master valve in the new unit is available in sizes from 1 to 8 inch. The 1-in. valve with outdoor bulb and tube lists at $655. List price of the standard control panel is $92. Orifice plates to provide for equal distribution and steam radiator valves list at $1. to $1.20 each.

The valve assembly to the left in the illustration employs a liquid-filled actuating bulb which mounts in the open under a protecting shield. Changes in temperature surrounding this bulb actuate the motor-driven hydraulic power unit in base of the valve assembly. This opens or closes the valve under regulating control of the modulating mechanism at the side of the unit which is actuated by steam or vapor pressure in the heating line. The standard control panel has a four-position switch and a combination time switch for automatic night shut-down and morning pick-up. Temperature and pressure indicators can be added to specification.

BREVITY—Identify by IEN - 5702 if you write the maker

TESTING . . Automatic titrator for fast and accurate routine test

Source: BECKMAN INSTRUMENTS INC.
800 Mission St., South Pasadena 5, Calif.



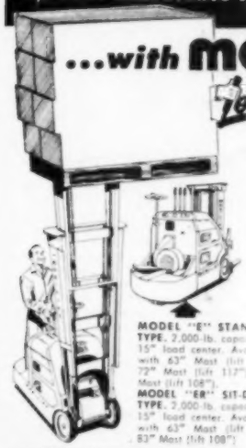
Model K is a new assembly of amplifier, control unit and two delivery units for neutralization-type and for oxidation-reduction titrations. The operator fills the burettes, places the samples in the beakers. Then he raises the beaker holders into position to start stirrer motors and initiate delivery of the titrating solution into the sample. The instrument takes over from there and stops when the end points have been reached. List price is $650.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5703 if you write the maker

Cut Your Materials Handling Costs

...with MOBILIFT Lev-R-Matic DRIVE Fork Lift Trucks



Mobilift gas operated fork trucks are compactly designed for split second maneuverability everywhere.

3 functionally grouped levers give operator finger-tip control of tilting, elevating, forward-back movement.

Push-Pull Lev-R-Matic controls and a multiple disc clutch smoothly transmit power forward and back. There are NO GEARS TO SHIFT.

Roller chain-driven uprights allow unobstructed view between uprights.

MODEL "E" STAND-UP TYPE. 2,000-lb. capacity on 15" load center. Available with 63" Mast (lift 63"); 72" Mast (lift 112"); 83" Mast (lift 108").

MODEL "ER" SIT-DOWN TYPE. 2,000-lb. capacity on 15" load center. Available with 63" Mast (lift 68"); 83" Mast (lift 108").

"MOBILIZE" Your Materials Handling ...Write for Specification Bulletins

MOBILIFT Lev-R-Matic DRIVE
MOBILIFT CORPORATION
835 S. E. Main St., Portland 14, Oregon
CHICAGO • EAST RUTHERFORD, N. J. • ATLANTA • DALLAS • BERKELEY

BREVITY—Identify by IEN - 5704 if you write the maker

be fresh stay fresh

wear COVER'S FOG-PROOF GOGGLES

FAMOUS "Nod & Shake" Type

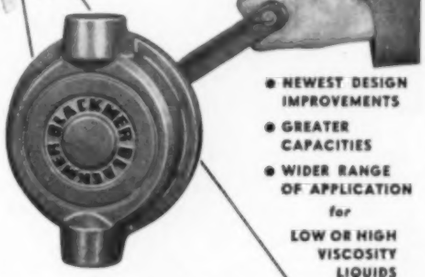
Used by thousands, for years, to protect eyes against paint spray, gases, dusts, fumes, smoke. Can be worn with any make respirator. Frames are of soft, pliable rubber that give air-tight fit on any shape face. A few drops of water placed in patented groove keeps fog from forming on inside of single lenses. An easy nod and shake of the head keeps lenses clear indefinitely.

Sample sent $1.85 pp

H. S. COVER, South Bend, Ind.

BREVITY—Identify by IEN - 5705 if you write the maker

new BLACKMER HAND PUMPS



- NEWEST DESIGN IMPROVEMENTS
- GREATER CAPACITIES
- WIDER RANGE OF APPLICATION for LOW OR HIGH VISCOSITY LIQUIDS OF ALL TYPES

New Blackmer Hand Pumps provide easier, faster dispensing from drums or wheel tanks, and for liquid materials handling up to 28 gallons per minute.

FOR COMPLETE DETAILS

Folder illustrates models for dispensing, refueling, underground tank service, etc., with accessories for choice of mounting. Write for folder "HP6."

BLACKMER PUMP COMPANY
1809 CENTURY AVE., S.W., GRAND RAPIDS, MICH.

BREVITY—Identify by IEN - 5706 if you write the maker

DODGE BABBITTED BEARINGS

PRECISION BORED!

TRUE RUNNING!

DEPENDABLE!

● There's a *big* difference between a Dodge Journal Bearing and a common flat box — a difference that pays off in longer years of service, smoother operation, power savings! Dodge Journal Bearings are precision bored and faced — to insure maximum bearing surface for radial and thrust loads . . . Solid or Split Journal. Shaft sizes from 1/2" to 3-15/16". Stocked by Dodge distributors. Write us for full details.

DODGE MANUFACTURING CORPORATION, 600 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.
FIRST IN POWER TRANSMISSION MACHINERY

BREVITY—Identify by IEN - 5708 if you write the maker

WRITE TODAY!

DICO'S WHEEL CATALOG Free!

A UNIQUE CATALOG SIMPLIFYING YOUR WHEEL ENGINEERING PROBLEMS

A MODERN LINE OF INDUSTRIAL RUBBER WHEELS DIAMETER 6"—18"

DICO CORPORATION
402 S.W. 16TH ST., DES MOINES 5, IOWA

BREVITY—Identify by IEN - 5709 if you write the maker

CUT CLEANING COSTS as much as 90%

WITH HYPRESSURE Jenny STEAM CLEANER

IT'S 10 TIMES FASTER THAN HAND-CLEANING

In any plant, shop or factory, in any industry, Hypressure Jenny cuts and flushes away dirt and grease from machines, tools, floors and walls . . . cleans windows, skylights, lavatories, etc., in one-tenth the time it takes to clean by hand. That means a 90% reduction in cleaning costs; a cleaner, safer plant; increased production; lower fire insurance rates. And it can mean fewer costly shut-downs, because periodic Hypressure Jenny steam cleaning often reveals unsuspected flaws and defects in equipment before failures occur. And when repairs are necessary, actual time studies reveal up to 40% savings in man-hours when Hypressure Jenny is used to clean equipment *before* mechanics start working on it.

HYPRESSURE JENNY CLEANS—Machinery · Conveyors · Engines · Transformers · Hoists · Trucks · Tank Cars · Cranes · Shafts · Belting · Compressors · Buildings · Floors · Walls · Windows · Etc., Etc.

THIS BOOKLET TELLS THE COMPLETE STORY—IT'S FREE—SEND FOR IT TODAY

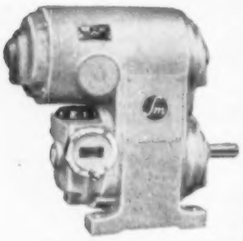
HYPRESSURE JENNY DIVISION
Homestead Valve Manufacturing Co.
"Serving Since 1892"
P. O. Box 85 • Coraopolis, Pa.

BREVITY—Identify by IEN - 5710 if you write the maker

power modernization

Even a brand new motor may be obsolete . . .

if you do not have control of speed



STERLING SPEED-TROL

. . . Gives You Variable Speed Control Necessary For:

• PROCESS CONTROL OF: Temperature—viscosity—level—pressure—flow—etc.
• TIME CONTROL OF: Baking—drying—heating—cooking—pasteurizing—soaking—chemical action—etc.
• EQUIPMENT ADAPTATION TO: Load variation—sequence synchronization. Size—tension—hardness or shape of materials to be processed—machined—conveyed—blended—mixed—etc.
• VARIATIONS IN: Quality—quantity—operators' abilities—etc.

Ask for your copy of pictorial bulletin No. A-62, showing Sterling Electric Power Drives Turning The Wheels of Industry

STERLING ELECTRIC MOTORS

Plants: New York 51, N. Y.; Los Angeles 22, California; Hamilton, Canada; Santiago, Chile. Offices and distributors in all principal cities.

NEWS NOTES—Continued

"New surface treatment for magnesium"

BREVITY—Identify by IEN - 5711 if you write the maker

GRINDING . . How centerless grinding works described by booklet that gives application examples

Cincinnati Grinders Inc.
Marburg St., Cincinnati 9, Ohio

Diagrams and text present basic principles of centerless grinding at the start of new 48-page edition of the company's booklet, "Principles of Centerless Grinding." Similar treatment is followed for methods, controls, wheels, wheel truing, corrective adjustment. Small lots, examples of work, estimating production, are other topics.

BREVITY—Identify by IEN - 5712 if you write the maker

MAGNESIUM . . House publication article describes new corrosion-resistant surface treatment

Brooks & Perkins Inc.
1948-52 W. Fort St., Detroit 16, Mich.

"HAE" finish treatment for magnesium and its alloys is subject of major article in company's house publication for May, "Magazine of Magnesium." The article describes corrosion resistance, abrasion and heat resistance, lists applications. Your name will be added to the list upon request.

BREVITY—Identify by IEN - 5713 if you write the maker

MANAGEMENT . . Informal booklet describes the company and its activities

Rogers Corp.
27 Mill St., Manchester, Conn.

Opening statement in new 36-page information booklet is "This booklet contains too much to read". The booklet itself is titled "Here's Rogers and Its Fiberloys". It uses breezy non-technical language to describe the company's sheet materials from paperboard to plastic, its activities, relations.

BREVITY—Identify by IEN - 5714 if you write the maker

MANPOWER . . Booklet invites engineers to work for the company by describing its facilities

Philco Corp.
C & Tioga Sts., Philadelphia 34, Pa.

Emphasis on research and engineering activities is stressed in new 8-page booklet, "A Career at Philco." The booklet describes the company, what it makes, what is done for personal and professional advancement. You may be interested as an example of how to recruit technical man-power.

BREVITY—Identify by IEN - 5715 if you write the maker

METALS . . New house publication presents news on company's design-strengthened metals

Rigidized Metals Corp.
664-P Ohio St., Buffalo 3, N. Y.

Suggestions on use of the company's Rigidized metals are illustrated in Vol. 1 No. 1 of "Rigidized Metals News." Example is use of one pattern in a portable aircraft loading ramp for appearance and non-skid tread. Your name will be added to list to receive this and future issues upon request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5716 if you write the maker

IT'S ALLIED FOR RCA SPECIAL-PURPOSE TUBES FOR INDUSTRY

All Types in Stock
• Vacuum Power
• Thyratrons
• Vacuum & Gas Rect.
• Ignitrons
• Cold-Cathode
• Phototubes
• Oscillograph Tubes
• Camera Tubes
• Monoscopes
• Special Types

the world's largest distributors of RCA special-purpose tubes

ALLIED maintains *in stock for quick shipment* the world's largest inventory of RCA special-purpose electron tubes—*of all types*. We specialize in supplying the tube needs of industrial, broadcast, governmental and other users. Shipments are made *from stock* to any part of the nation within hours after we receive your order. Fill *all* your tube needs from a *single, dependable source*.

FREE Interchangeability Directory

Valuable guide to selection of proper RCA tube type replacements. Lists 1600 tube types. Write for FREE RCA Guide No. 37-046.

Look to ALLIED for Your Electronic Supplies

Make ALLIED your central supply source for *all* electronic supplies—parts, tubes, test instruments, tools, audio amplifiers, accessories—available for all your needs from the world's largest stocks. Order from your ALLIED Catalog—the leading Electronic Buying Guide. Ask for your FREE copy.

ALLIED RADIO DEPT. 14-F-1
833 W. Jackson Blvd., Chicago 7, Illinois

BREVITY—Identify by IEN - 5717 if you write the maker

We don't have to teach our people how to use this extinguisher!

IT'S A RANDOLPH!

No valves to turn, no nozzles to adjust; just point and press your thumb and Randolph's cloud of snowy CO_2 kills fire instantly. Non-damaging, non-toxic, won't conduct electricity, deteriorate or freeze. A complete line of extinguishers. Underwriters' approved. Write for catalog to

RANDOLPH LABORATORIES, INC.
6 E. Kinzie St.
Chicago 11, Ill.

BREVITY—Identify by IEN - 5718 if you write the maker

DRYBROW

"The Nation's Sweat Band" takes the "lag" out of hot temperature production. More is produced . . . workers are happier, cooler—more comfortable on the job.

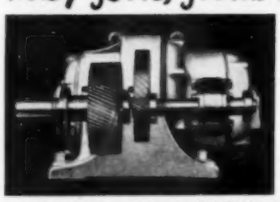
Check exclusive DRYBROW features that make it the sweat band preferred by workers coast to coast.

Write for free sample Drybrow today.

The AMERICAN ALLSAFE COMPANY, INC.
1245 Niagara St. Buffalo 13, N. Y.

BREVITY—Identify by IEN - 5719 if you write the maker

Why monkey with noisy gears, guards and belts?



. . . SIMPLIFY your power hook-up. Instead of installing a motor plus gear box, extra coupling and belting, select a *U. S. Syncrogear Motor*. The gearing is built-in, completely enclosed, an integral part of the motor assembly.

INSTALL THE INTERNALLY-GEARED

SYNCROGEAR

10 to 10,000 RPM

Saves space. Avoids purchase of extra equipment. Pyramidal structure insures maximum stability. Asbestos-protected windings. Hardened gears. ¼ to 30 h.p. Write for 16-page Syncrogear Bulletin.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Cal., or Milford, Conn.

BREVITY—Identify by IEN - 5720 if you write the maker

INCREASE FIRE PROTECTION—CUT INSURANCE COSTS

COBURN FIRE DOOR HARDWARE

Metal clad or Kalamine doors, installed with Coburn Fire Door Hardware, reduce fire hazards, and lower insurance rates.

Coburn Fire Door Hardware is made to specifications of The National Board of Fire Underwriters and, where necessary, bear the U. L. I. label. Special sets available for single and double incline or level slide doors; single and double swing doors; vertically operated doors. All equipped with automatic self-closing devices. Write for catalog #210 showing full line of hardware, charts showing required headroom; wall space and other information.

Engineering help available without obligation.

COBURN PRODUCTS CF&I

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL & IRON CORPORATION
Sales Engineering: 56 Sterling Street, Clinton, Massachusetts
Executive Office: 500 Fifth Avenue, New York 18, New York
Sales Offices: Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • Philadelphia
Pacific Coast — The California Wire Cloth Corporation, Oakland 6, California

BREVITY—Identify by IEN - 5721 if you write the maker

Kimpak® Float Packaging

TOOL SET
Snap-on Tools Corporation

Cuts shipping costs—reduces damage in transit!

Do you handle your product with extreme care during the manufacturing process—then trust it to outmoded, inferior quality cushioning materials after it leaves your shipping room? You may not be able to answer that question if you haven't seen KIMPAK® Float Packaging at work.

It's the modern way to ship anything from delicate glassware to furniture and appliances; from tools and hardware to flowers and food. It's also one of the most efficient packaging methods in the world—giving optimum protection at minimum cost.

KIMPAK creped wadding is as neat, clean and easy to apply as wrapping paper. It's designed to absorb continuous vibration, ward off severe shocks, cushion and defend your product against roughest handling. This highly efficient cushioning material protects the finest finish from scratching, bruising, pressmarking and "burning."

Call your KIMPAK distributor today for further information, or write to Dept. IEN, Kimberly-Clark Corporation, Neenah, Wisconsin.

Kimpak REG. U.S. PAT. OFF. & FOREIGN COUNTRIES

CREPED WADDING

®REG. U. S. PAT. OFF. & FOREIGN COUNTRIES

BREVITY—Identify by IEN - 5723 if you write the maker

HEATING . . Framed electric panel presents a decorative picture face

Source: ELECTROFILM CORP.
7114-18 Laurel Canyon Blvd., North Hollywood, Calif.

The heating element in this new combination heater-picture is an electrically-conducting paint-like material. It is applied to a special fiber board that forms the assembly backing. A picture is laminated over this element and a frame is included as shown in the illustration. Two sizes are 16 by 20 in. and 18 by 24 inches. Rating of the smallest unit is 180 watts. The heating element is controlled by formula to operate at a given temperature. Normally this will not exceed 200 deg. F. to prevent the possibility of contact burns.

The company is prepared to manufacture mural-type pictures in sizes to 40 by 60 in. in addition to the standardized frame unit for specified installations.

BREVITY—Identify by IEN - 5724 if you write the maker

WELDING . . Masking compound protects work against spatter and heat

Source: EUTECTIC WELDING ALLOYS CO.
40-42 172nd St., Flushing, N. Y.

For non-ferrous arc welding

Eutect-Mask is a new paste material available in 5-lb. cans and, if desired, in 50-lb. packaged lots. It is spread with the welding flux over the area to be protected adjacent to an arc-welding operation. It prevents spatter from contacting the work surface, keeps flame marks off also. The dried residue can be removed when welding has been completed.

BREVITY—Identify by IEN - 5725 if you write the maker

VIBRATING . . Motor driven machine to relax the muscles in a user's feet

Source: McDOWELL MFG. CO.
303 Stanton Ave., Pittsburgh 9, Pa.

Oscillation produced by a motor-driven vibrating mechanism is imparted to a horizontal foot plate in this recently improved Relax-A-Later, previously described IEN-993-48. The new design includes a mechanism packed with non-fluid grease so no lubrication is required in service. Operation is essentially without noise. The machine relaxes tired foot and leg muscles.

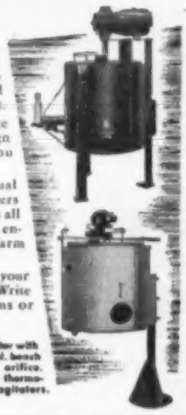
The assembly includes a coin-operated mechanism that is normally set to provide one minute of action on depositing a nickel in the slot. Also the unit can be installed, as in a manufacturing plant, for use by the workers without charge.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5726 if you write the maker

BREVITY—Identify by IEN - 5727 if you write the maker

SPEED UP COMPOUND MELTING with STA-WARM HEATING TANKS



• Name your compound melting requirement! Sta-Warm will suggest *exactly* the tank or pot in their wide and varied line to produce the heated compound you need at the rate you need it.

Or, their engineers will analyze your special problem and design the unit to do your job as you want it done.

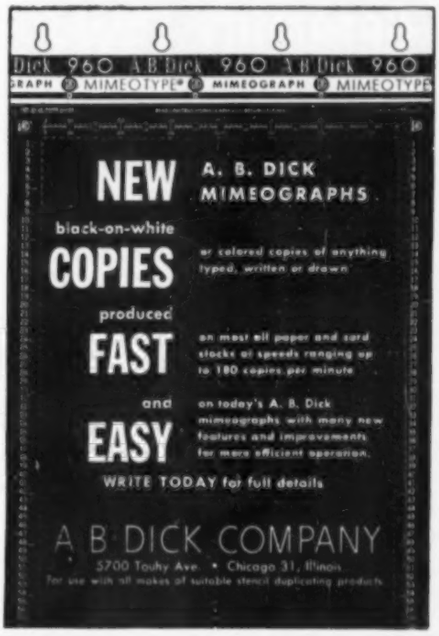
Heating and dispensing unusual compounds and tailoring melters to unusual production set-ups is all in the day's work for Sta-Warm engineers. Put specialized Sta-Warm "know-how" to work for you.

The *right* equipment can break your compound melting bottleneck. Write for Sta-Warm recommendations or bulletins today.

Shown at right (above) is 25 gal. melter with molasses gate valve. Below it is 5 gal. bench type dispenser with needle valve orifice. Both models equipped with variable thermostat controls and power driven agitators.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

BREVITY—Identify by IEN - 5728 if you write the maker



BREVITY—Identify by IEN - 5729 if you write the maker

SAFETY-PULL RATCHET LEVER HOIST

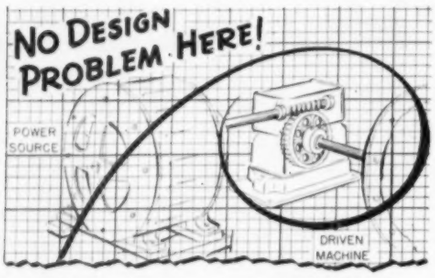
MANPOWER BOOSTER . . . that's yours for keeps

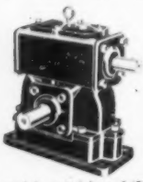
Meet the increasing demand on available manpower with Coffing Safety-Pull Hoists. Here are mechanical muscles that are bought, not hired—and they're yours for keeps. With a Safety-Pull to relieve the burden of countless lifting, pulling jobs, more skilled effort is applied where it pays—in production.

Safety-Pulls work efficiently any place—indoors or out, vertically or horizontally. To assure long life, to protect your men and materials, each is factory tested at 100 percent overload. Start now to get the most from available manpower by enlisting the help of dependable Coffing Safety-Pull Ratchet Lever Hoists. Nine sizes with capacities from 1,500 to 30,000 lb. Write for Bulletin P6SP.

COFFING HOIST COMPANY, Danville, Illinois
Quik-Lift Electric Hoists • Hoist-Alls • Mighty-Midget Pullers • Spur-Geared Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys

BREVITY—Identify by IEN - 5730 if you write the maker





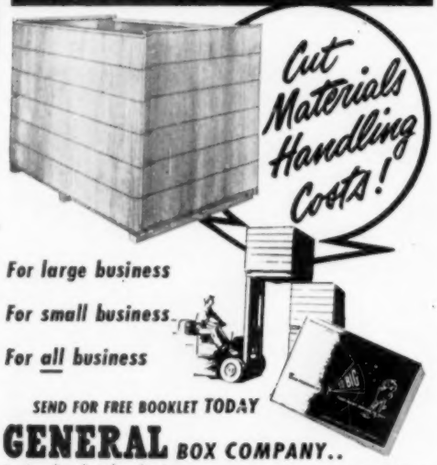
There's an ABART SPEED REDUCER that's built for the particular application you have in mind

For every duty . . . for every input and output . . . we can furnish you with the exact speed reducer you need from our line of over 75 sizes and types in spur, worm, and combinations. We make single and double-reduction models, rated from 1/50 to 417 h.p., with ratios up to 10,000 to 1. Our reducers are oil-tight, dust-free, long-wearing . . . and made of strongest materials. Use our catalog to find the right answer on torque, horsepower, load, space and other important engineering factors. Send for it today!

Abart GEAR & MACHINE CO.
4823 W. 16th Street Chicago 50, Ill.

BREVITY—Identify by IEN - 5731 if you write the maker

Generalift PALLET BOXES



For large business
For small business
For all business

SEND FOR FREE BOOKLET TODAY

GENERAL BOX COMPANY..
★★★★★ engineered shipping containers

GENERAL OFFICES: 508 N. Dearborn St., Chicago 10, Ill.
DISTRICT OFFICES AND PLANTS: Cincinnati, Danville, N. J., Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, Sheboygan, Winchendon.
Continental Box Company, Inc., Houston, Dallas.
General Box Company of Mississippi, Meridian, Miss.

BREVITY—Identify by IEN - 5732 if you write the maker

GRAMIX® parts can meet tolerances of .0005

Gramix parts, die-pressed of powdered metal mixtures to tolerances as close as .0005, fit practically every design need. Gramix parts eliminate costly machining time and are oil impregnated for self-lubrication. Gramix can help improve the mechanical performance of your products, save time and money. Write today for full facts.

THE UNITED STATES GRAPHITE COMPANY
Division of The Wickes Corporation
SAGINAW, MICHIGAN

NEWS NOTES—Continued

New handbook on power resistors"

BREVITY—Identify by IEN - 5733 if you write the maker

PACKAGING . . Summary of Government specifications in booklet on preassembled interlocking carton partitions

American Partition Corp.
3041-45 N. 30th St., Milwaukee 10, Wis.

Two pages of new 56-page "Safe Journey" booklet summarize Government specifications dealing with packaging. Two other pages summarize available literature on how to sell to the Government and the armed forces. Balance of the booklet describes use of the company's preassembled interlocking carton partitions with examples.

BREVITY—Identify by IEN - 5734 if you write the maker

PLASTICS . . New trailer mounted exhibit to demonstrate how company's plastic is molded

Libbey-Owens-Ford Glass Co.
2114 Sylvan Ave., Toledo 6, Ohio

Highway truck and van trailer have been equipped with two automatic molding machines as a portable demonstration on how to mold the company's Plaskon Alkyd plastic material, previously described IEN-11867-48. It includes an exhibit of properties and applications, stressing production rate to 4,000 per hr. on the parts molded by the machines.

BREVITY—Identify by IEN - 5735 if you write the maker

PROTECTING . . Booklet uses cartoons to illustrate procedure for cleaning tank interiors

E. I. du Pont de Nemours & Co.
2518 Nemours Bldg., Wilmington 98, Del.

"Tank Talk" is new pocket-size cartoon-style booklet intended for use by operators who enter and clean gasoline storage tanks of leaded sludge. It stresses health precautions, equipment use and maintenance, ventilation, sludge disposal. Cartoons emphasize principal points. Longer text is in rhyme.

BREVITY—Identify by IEN - 5736 if you write the maker

PROTECTING . . House publication article commemorates two-year sponsorship of Wise Owl Club

National Society for the Prevention of Blindness
1790 Broadway, New York 19, N. Y.

Current issue of "Wise Owl News" summarizes progress in the sponsorship by the Society of the Wise Owl Club of America, organized for the protection of vision in industry. The publication is issued four times a year to keep members up to date on developments.

BREVITY—Identify by IEN - 5737 if you write the maker

RESISTORS . . New 204-page handbook describes power resistor design and application

Ward Leonard Electric Co.
29-33 South St., Mount Vernon, N. Y.

How to use power resistors in electric and electronic circuits is detailed by new "Handbook of Power Resistors," list price $3. It covers types, construction, selection, standard sizes, data tables. De-rating curves are a feature to assist in applications where catalog ratings do not apply.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5738 if you write the maker

NEW! ADEQUATE WIRING ANALYZER

Don't guess about electrical circuits!

The Sprague Adequate Wiring Analyzer makes it easy to prove whether or not existing wiring will carry proposed loads safely—or if it is adequate for present loads. An effective visual convincer for your front office.

Direct-reading meter shows percent voltage drop under load on 115 or 230 volt circuits. Furnished complete with connectors for convenience outlets, panel boards, etc. for on-the-job use.

Write for Bulletin PF-600

SPRAGUE ELECTRIC COMPANY
North Adams, Massachusetts

BREVITY—Identify by IEN - 5739 if you write the maker

Precision is the Keynote—in Production and Performance

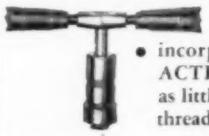
The word precision perfectly characterizes every relay manufactured by LEACH, and this precision is most apparent in their performance. Whatever the purpose, LEACH can provide relays of advanced design for flexibility, economy and unexcelled performance. Highest standards of engineering, materials and workmanship.
For better controls through better relays—contact LEACH.

LEACH RELAY CO.
5915 AVALON BOULEVARD, LOS ANGELES 3, CALIF.
Representatives in Principal Cities of U. S. and Canada

BREVITY—Identify by IEN - 5740 if you write the maker

Machinery, Gas and Diesel Engine Builders . . . ATTENTION!

TITAN - KIRKLAND Combination STUD DRIVER AND PULLER . . .



• incorporates ROLL ACTION to *GRIP* as little as 1/2" of unthreaded body of stud

• REQUIRES ONLY A SLIGHT LEFT OR RIGHT HAND TURN TO GRIP STUD.

• WHEN ROTATION IS STOPPED, TOOL MAY BE LIFTED OFF STUD WITHOUT REVERSING DIRECTION OF ROTATION.

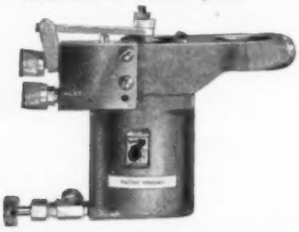
Made in T-Handle, Ratchet, and Power styles in standard sizes from 3/16" to 1" inclusive. Larger sizes on request.

WRITE FOR FREE LITERATURE, TODAY!

TITAN TOOL CO.
Production Tools
52 MAIN ST., FAIRVIEW, ERIE COUNTY, PA.

BREVITY—Identify by IEN - 5741 if you write the maker

DOUBLE YOUR DRILL PRESS OUTPUT FOR $33



USE A NEW MEAD PNEUMATIC DRILL PRESS FEED for DRILLING REAMING TAPPING

This simple, inexpensive device quickly converts standard drill presses into semi-automatic machines—increases production substantially on suitable jobs: double or more in some cases.

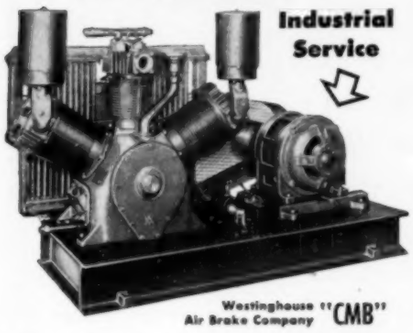
Clamps to spindle quill in a few seconds. Automatically closes air fixture on work. Adjustable feed control and break-through cushion. Quick-return. Easy to synchronize with automatic cycle equipment.

Air-Power does it quicker, cleaner, better. Write today for latest complete catalog.

MEAD SPECIALTIES COMPANY
4114 N. KNOX AVE., DEPT. E-61-A, CHICAGO 41, ILL.

BREVITY—Identify by IEN - 5742 if you write the maker

Here's a Husky "He-Man" AIR COMPRESSOR for Industrial Service



Westinghouse Air Brake Company "CMB"

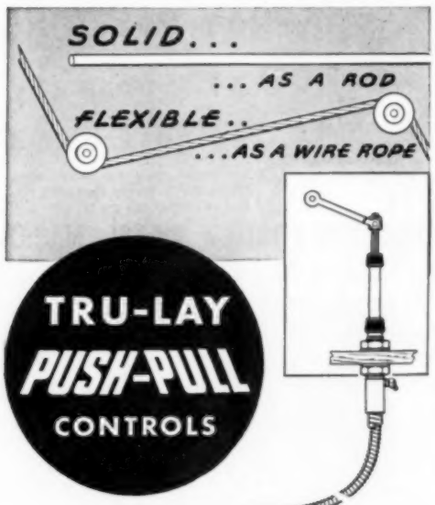
Handles tough assignments—designed for continuous operation at 150-lb. max. Two low-pressure, one high-pressure cylinders, forced-feed lubrication system with "metered" oil flow. Automatic—may be arranged for "start and stop" or "continuous-running—load-unload" operation. Displacements 126 to 203 C.F.M., Motor HP 20 to 40. Catalog 9302-7; ask for it.

Westinghouse Air Brake Co.

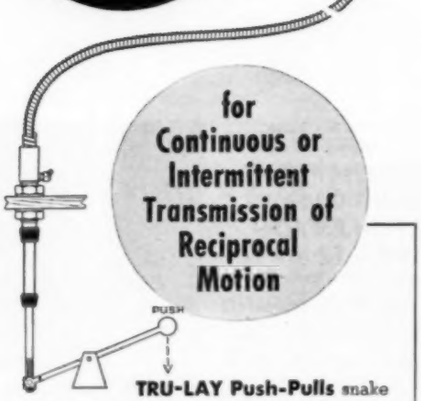
Industrial Division: Wilmerding, Pa.

DISTRIBUTORS THROUGHOUT THE UNITED STATES
CONSULT YOUR CLASSIFIED DIRECTORY

BREVITY—Identify by IEN - 5743 if you write the maker



TRU-LAY PUSH-PULL CONTROLS



for Continuous or Intermittent Transmission of Reciprocal Motion

TRU-LAY Push-Pulls snake around obstructions. Provide positive remote action. Operate while flexing, as on shakers. Few or many bends. Short or long distances. Ruggedly constructed for years of service. Capacities up to 1000 pounds input. Maximum travel 4".

Write our Detroit office today for **DH-287**

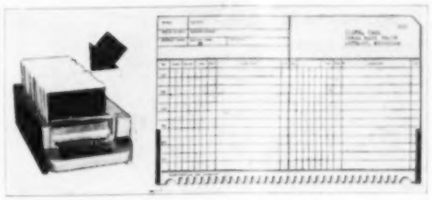
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

ACCO AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
In Business for Your Safety

BREVITY—Identify by IEN - 5745 if you write the maker

SORTING . . Card file with coding and selector mechanism

Source: ELECTROFILE CORP.
420 Lexington Ave., Room 350, New York 17, N. Y.



Electrofile trade names new file to take cards measuring 8 in. in width by 5, 6, 7 or 8 in. in height. It provides means to code these cards alphabetically, numerically or in a combination of the two. Then the coded cards can be placed in any position in the file for selection, as coded, upon depressing selected keys at the front of the unit and then operating a small lever to close an electro-magnet circuit. When this is done the selected cards rise up on one corner so they can be lifted out.

The cards are printed to specification and are equipped with ferrous metal strips for a portion of their two side edges near the bottom. Across the bottom they carry 30 indentations. A card to be coded is inserted in a slot at the front of the assembly. The appropriate alphabet or number keys are depressed on the keyboard and a lever at the right-hand side is pulled down. This action causes knives in a bar assembly across the bottom to cut out certain of the teeth formed by the indentations. Then the card will be free to move a little distance laterally when the selector levers are depressed and the selector magnet is actuated.

The assembly measures 24½ in. in length by 11⅞ in. in width by 6⅛ in. in height. It weighs about 90 pounds. It takes interchangeable trays measuring 22 in. in length by 8 in. in width with height varying between 5 and 8 inches. Each tray holds 1,000 cards. A multi-tray unit consists of one selector assembly and five trays for a total capacity of 5,000 cards.

List price for the selector alone is $475. The trays add $15 to $22.50 each. Stands are available at $55 to $75. A cabinet with capacity from 15,000 to 20,000 cards adds $135.

BREVITY—Identify by IEN - 5746 if you write the maker

VENTILATING . . Motor driven fan 12 to 20 in., for stand or window use

Source: SCHWITZER-CUMMINS CO.
1123-27 Massachusetts Ave., Indianapolis 7, Ind.

Type RWP designates new two-speed motor-driven reversible fan for operation interchangeably in a tubular stand or in a window panel. The unit is available in 12 and 16-in. sizes with maximum rating at 1,280 and 2,100 cfm. Type RW designates a 20-in. assembly for installation in a window opening. It also is reversible and provides two-speed operation with maximum rating at 2,900 cfm. Rubber mounting for each of the three sizes results in essentially noiseless operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5747 if you write the maker

MELRATH GASKETS

FULL OPEN HEAD PAIL AND DRUM GASKETS

Designed to meet every service requirement. Tubular and solid rounds or sponge rubber for containers of liquids and semiliquids. Melco Fabritex Gaskets for use in drums of dry or powdered and semisolid products.

"There's a Melrath Gasket for Every Purpose!"

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

BREVITY—Identify by IEN - 5748 if you write the maker

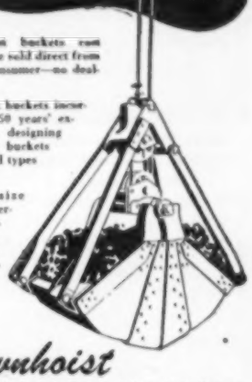
Buy a Better Bucket FOR LESS MONEY *Buy Brownhoist*

DIRECT FROM FACTORY TO YOU

• Brownhoist buckets cost less—they are sold direct from factory to consumer—no dealer profits.

• Brownhoist buckets incorporate over 50 years' experience in designing and building buckets for handling all types of materials.

• Standard size rope-reeve, power-wheel and link-type Brownhoist buckets are available for immediate shipment.



Brownhoist

Write for illustrated catalog of Brownhoist Buckets
INDUSTRIAL BROWNHOIST CORPORATION
139 Washington Ave., Bay City, Michigan.

BREVITY—Identify by IEN - 5749 if you write the maker

Easier to Install BRADLEY Multi-Stall SHOWERS

Sanitary Bradley 5-Stall Shower Installation.

Convenient, sanitary Bradley 5- and 3-Stall Shower Units come partially assembled for quick, easy installation on any kind of floor including wood. A Bradley Shower Unit requires only three supply lines—hot water, cold, and drain—as compared to the fifteen plumbing connections needed for five "single-stall" showers.

Maintenance and janitor detail are correspondingly less with Bradleys. In addition there are no corners or dark areas to collect dirt and require constant cleaning. Other savings are realized from lowered water consumption and heating expense. BRADLEY WASHFOUNTAIN CO., 2219 W. Michigan Street, Milwaukee 1, Wisconsin.

BRADLEY *multi-stall showers*

Distributed Through Plumbing Wholesalers.

★

Big Catalog 4701 gives complete details.

BREVITY—Identify by IEN - 5750 if you write the maker

famco (COST CUTTING) machines

HIGH IN QUALITY—LOW IN COST

DRILL PRESSES

Best buy in 15" drill presses. Complete line of single and multiple spindle models, bench and floor types. Many exclusive Famco features.

SQUARING SHEARS

In 3 power and 5 foot models. Cutting widths 22" to 52". Capacity up to 18 gauge mild steel. Inexpensive, ruggedly built, many features.

POWER PRESSES

Open-back, inclinable, bench and floor type. Heavy semi-steel, cast iron frame and drop-forged, one-piece crankshafts. Most models; highest quality in small presses.

METAL CUT-OFF BAND SAWS

High quality machine tool made in both dry and wet cutting models. Capacity up to 6" round and 6" x 12" rectangular stock. Many exclusive Famco features.

Other famous Famco equipment includes: Arbor Presses in 12 stock types, delivering up to 15 Tons pressure; and Foot Presses in 10 bench and floor types, rated up to 3½ Tons pressure. The complete Famco line is available through industrial equipment distributors everywhere.

FAMCO MACHINE COMPANY
1303 18th STREET RACINE, WISCONSIN

BREVITY—Identify by IEN - 5751 if you write the maker

make Ingersoll your prime source of supply for SPECIAL STEELS

Alloy Steels . . . Armor Plate . . . Clutch Plate Steels . . . Tillage Steels . . . Soft Center Steel . . . Shovel Steels . . . Knife Steels . . . Saw Steels, including High Speed Hack Saw Blade Steels . . . TEM-CROSS Steel . . . Stainless Steels . . . INGACLAD Stainless-Clad Steel

Ingersoll STEEL DIVISION

BORG-WARNER CORPORATION
New Castle, Indiana

BREVITY—Identify by IEN - 5752 if you write the maker

DILLON DYNAMOMETERS

remove all guesswork from tension or stress problems

WIDE CAPACITY RANGE

500 to 50,000 lbs. The perfect lab or field instrument for showing tension or stress. Hundreds of uses. Small—Light—Accurate—Low cost. Write today for illustrated bulletin.

Testing Wrecking Truck Winch and Boom. Modern automobile wrecking trucks are often called upon to lift and pull exceedingly heavy loads. Above, the DILLON DYNAMOMETER is checking these factors in a new model wrecking truck manufactured by the Ashton Power Wrecker Equip. Co., Inc. Pull is against a heavy semi-trailer. Tests like these on heavy equipment are very easy with a DILLON DYNAMOMETER.

Here is a DILLON DYNAMOMETER at the Ford Motor Co. in Dearborn, Mich. employed to "buckle" a car frame through ordinary turnbuckle. In this way, the Body and Frame Section laboratory was able to determine the load necessary to take full shock absorber punishment.

W. C. DILLON & CO., INC.
PRECISION INSTRUMENTS FOR PRECISION TESTING
1421-K SOUTH CIRCLE AVENUE, FOREST PARK, ILLINOIS

BREVITY—Identify by IEN - 5753 if you write the maker

DON'T LET TRACING-STORAGE SHORTAGES TIE YOUR HANDS!

Insure adequate capacity by ordering Hamilton steel 5-drawer units now!

First choice for flexibility, first choice for all-around utility. Available in three basic drawer-sizes; capacity ranges from 500 active tracings to 1250 inactive tracings per unit. Traditional *Hamilton* design and quality. See your Hamilton Dealer at once for delivery information.

HAMILTON WORK-DESIGNED DRAFTING EQUIPMENT

Hamilton Manufacturing Company
Two Rivers, Wisconsin

NEWS NOTES—Concluded

"Two booklets on how to use valves"

BREVITY—Identify by IEN - 5754 if you write the maker

ROPE . . New packaging announced for sisal rope in marked lengths in cartons

New Bedford Cordage Co.
P. O. Box 714-A, New Bedford, Mass.

Red marks at 10-ft. intervals are feature of new pre-measured packaging for the company's sisal rope, similar to its manila-rope marking. Shipping cartons identify the rope by color, are printed with size, weight and brand designations.

BREVITY—Identify by IEN - 5755 if you write the maker

SPINNING . . How metal spinning is done and examples of spun parts described in bulletin

Spincraft Inc.
4120-24 W. State St., Milwaukee 8, Wis.

Basic shapes made by metal spinning are shown by drawings in new 40-page Data Book 3. Parts made from these shapes or combinations, design suggestions, adaptability of metals to spinning, flame spinning, fabricated parts based on spinnings, are included. Examples range from food equipment to locomotive nose pieces.

BREVITY—Identify by IEN - 5756 if you write the maker

STEEL . . With an aluminum coating described as to properties in 24-page booklet

Armco Steel Corp.
701-5 Curtis St., Middletown, Ohio

"Aluminized Steel" titles new 24-page booklet on the company's steel sheet coated with aluminum metal on both sides. Resistance, reflectance, mechanical properties are illustrated and described along with typical applications. Instructions are given for welding by gas, arc, resistance methods.

BREVITY—Identify by IEN - 5757 if you write the maker

VALVES . . Useful information on how to use and install valves, pipe fittings

Crane Co.
834-38 S. Michigan Ave., Chicago 5, Ill.

New 36-page edition is announced for the company's useful-information booklet, "Piping Pointers." It describes principal valve designs and where to use them, how to select valves by the intended type of service, pipe fittings and their installation, how to make joints, valve installation suggestions.

BREVITY—Identify by IEN - 5758 if you write the maker

VALVES . . Book of pipe layouts presents 25 diagrams with notes on the valves

Jenkins Bros.
100 Park Ave., 30th Floor, New York 17, N. Y.

"Practical Piping Layouts" presents a new series of 25 schematic isometric layout drawings to show pipe, valves and equipment. The layouts, designated No. 26 to No. 50 by the company, are for installations involving air, oil, water, steam, extinguisher lines. Each lists the valves recommended.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5759 if you write the maker

PULLMAX DOES IT ALL!

PULLMAX
Sheet and Plate Working Machines

Imagine, one machine doing all of these operations—seven models that work the finest gauges up to 11/32" (in mild steel). Also ideal for working stainless, non-ferrous metal, wire mesh. Leaves a smooth perpendicular cut with no further finishing required. Pullmax does it better . . . faster.

WRITE FOR ILLUSTRATED CATALOG

AMERICAN PULLMAX CO., INC.

BREVITY—Identify by IEN - 5760 if you write the maker

Oakite's New FREE Booklet on Paint Stripping

WHAT'S THE BEST WAY TO STRIP PAINT FROM METAL PARTS TOO LARGE TO BE SOAKED IN TANKS? See Page 3

answers many questions that will lead you to better stripping procedures. You'll want to read more about:

What's the best way to strip large areas of structural metal where a steam supply is available? *See page 5.*

What's best when steam is not available? *See page 7.*

What is the cheapest way to strip metal parts in large volume? *See page 9.*

What are the best ways to prepare stripped surfaces for repainting? *See page 11.*

What strippers are best for removing oil-base paints? . . . Synthetic enamels, alkali-resistant plastics or resin-based paints? . . . Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas? *See page 12.*

FREE For a copy of "How to STRIP PAINT" write Oakite Products, Inc., 16A Thames Street, New York 6, N. Y.

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

BREVITY—Identify by IEN - 5761 if you write the maker

CUT SPRAY PAINTING COT on many defense items

such as the shells and rocket bombs illustrated, by sharply increasing production through the use of

ELECTRO-FORMED METAL MASKS
(MADE BY PATENTED PROCESS)
designed to fit into your conveyorized equipment.

We also design, engineer and build

COMPLETE AUTOMATIC SPRAY EQUIPMENT
(WITH OR WITHOUT MASKS)

MASK WASHING EQUIPMENT and AIR-OPERATED CLAMPS, FIXTURES AND TOOLS for

positioning parts in masks while painting or holding parts in place for other operations, such as welding.

Plug-type masks for keeping depressed areas clear, while spraying background; lip-type masks for protecting the background while painting depressed areas; and block cutout plane surface type masks.

Clean, sharply defined letters and decorative effects are obtained on intricate die castings, stampings and plastic forms by accurate control of painted areas with no fogged edges. After-wiping or buffing off of overspray is unnecessary. The "loose" inside of letters and numerals, such as "O" and "6", is held in position by arched bridging to eliminate objectionable "ties."

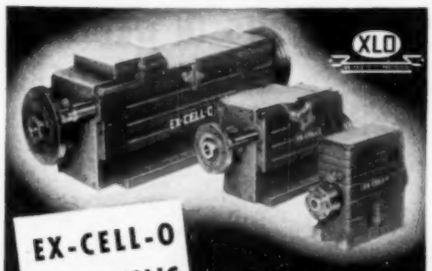
SEND COUPON NOW!

CONFORMING MATRIX CORPORATION
330 Toledo Factories Building Toledo 2, Ohio

Please send, without obligation, details on ( ) Hand masks; ( ) Mechanical masking fixtures; ( ) Air-operated masking fixtures; ( ) Stationary automatic spray painting masking machines; ( ) Rotary table automatic spray painting masking machines; ( ) Quotation on masks for parts (or prints) which I am forwarding.

NAME .....
FIRM .....
STREET .....
CITY & STATE .....

BREVITY—Identify by IEN - 5763 if you write the maker



EX-CELL-O HYDRAULIC POWER UNITS

. . . For Your Special Purpose Machines

Ex-Cell-O Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting cutting tools. They are especially suitable for automatic drilling reaming and counterboring, using a single tool held directly in the spindle nose, or using two or more tools in a multiple spindle head. Three standard units are available—styles 28-A, 21 and 20, shown above. For full information send for Bulletin 45361.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

BREVITY—Identify by IEN - 5764 if you write the maker

The Bowen Laboratory Spray Dryer

...MEETS ALL REQUIREMENTS FOR:

SMALL LOT PRODUCTION & LABORATORY RESEARCH

Hinged chamber open for cleaning

The Table Model is "scaled-down" from Bowen commercial spray dryers. The unit can be used for actual small lot production of valuable materials or for test work where data obtained is used for design of production units.

1. EASY TO CLEAN—Hinged chamber can be opened for washing or brushing. All ducts are flanged and fastened by quick-opening wing nuts to make cleaning easy.

2. SIMPLE TO OPERATE—Engineered for ease of operation—air temperatures are controlled automatically. Requires space of only 3' x 6'.

Observation of product formation

BOWEN ENGINEERING, INC.
NORTH BRANCH 10
NEW JERSEY

BOWEN

Since 1926 Recognized Leaders in Spray Dryer Engineering

BREVITY—Identify by IEN - 5765 if you write the maker

HOLTITE

SCREWS, BOLTS, NUTS and allied fastenings

Rugged, accurate and consistently uniform, HOLTITE precision-made fastenings are produced in all types, head styles, and finishes for ANY application in ANY material.

HOLTITE - Phillips Recessed Head Fastenings effect savings in time up to 50% and more. Power drivers can be safely used even on finished parts to speed assembling and eliminate marring of work and injuries to operators.

Send in your fastening problems. Our Engineering Staff will gladly study them and make recommendations for the most practical methods of reducing your costs. We have the most complete facilities for producing Special parts and fastenings.

CONTINENTAL SCREW CO.
New Bedford, Mass., U.S.A.
FIRST IN FASTENERS

BREVITY—Identify by IEN - 5766 if you write the maker

METER . . Reads air velocity, 4,000 fpm., static pressure to 4 in. water

Source: AIR DEVICES INC.
17 E. 42nd St., Room 1504, New York 17, N. Y.

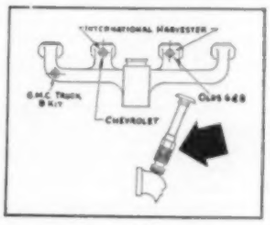
Air velocity in two ranges, maximum at 750 and at 4,000 fpm., can be selected by moving a toggle switch on the housing of this new Agitaire air-velocity meter. A reading is made after attaching the probe extension to its socket on the left-hand side of the housing top and by turning a power switch and current-setting knob to coincide with a marker for the selected range. The probe is positioned to face air flow and the pointer will then move over the scale to indicate the velocity. An attachment is provided for static pressure readings. It connects to the probe and the switch is set to low-range position with the current-set pointer also on its low-range marker.

The instrument operates on the hot-thermopile principle with the thermopile element mounted in the probe for contact with the moving stream of air. Heat is supplied for the element by three 1½-volt batteries enclosed in the housing. The reading is in terms of resistance which varies in step with the degree of cooling action in the air stream, this action resulting in change of resistance in the measuring circuit. The assembly weighs 11 pounds. It is enclosed in a mahogany-finished carrying case with a shoulder strap.

BREVITY—Identify by IEN - 5767 if you write the maker

VALVE . . Air inlet device for gasoline engine exhaust manifold

Source: FLINT CORP.
1308-12 W. Clybourn St., Milwaukee 3, Wis.



Fluctuations which take place in pressure inside the exhaust manifold of a gasoline engine and the fact that gases flow back into the engine cylinders during deceleration are employed by this Clear-Ex air-inlet valve to introduce fresh cooling air into the manifold and cylinders. The result is to condense some of the super-heated steam in the exhaust and admit moist air to the cylinders.

The air assists in keeping spark plugs clean and in preventing gum from gathering on the exhaust valves. At the same time, injurious gases in the exhaust are considerably diluted and so are less dangerous when they issue in enclosed spaces such as departments of a plant where engine-driven equipment is being used.

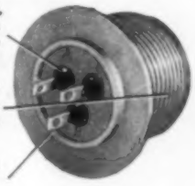
The unit is available now for general industrial use following its initial introduction several years ago in the automotive field where several thousand are now in operation. The valve and accessory parts are supplied in kits. The unit threads into the exhaust manifold at locations recommended by the company for given engines. One serves each engine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 5768 if you write the maker

CANNON PLUGS *hermetically sealed*

Cannon Type "GS" (glass sealed) connectors are hermetically sealed for use on position indicators, tachometers, and other instruments that must be sealed to avoid moisture condensation resulting from sudden altitude change or other causes.



Glass beads fused to shell and contact, have approximately same coefficient of expansion as steel shell, insulate contact and provide perfect seal.

Shell machined from cold rolled steel. Hot tin dip is standard finish. GS02 is receptacle type; GS06 plug with coupling nut.

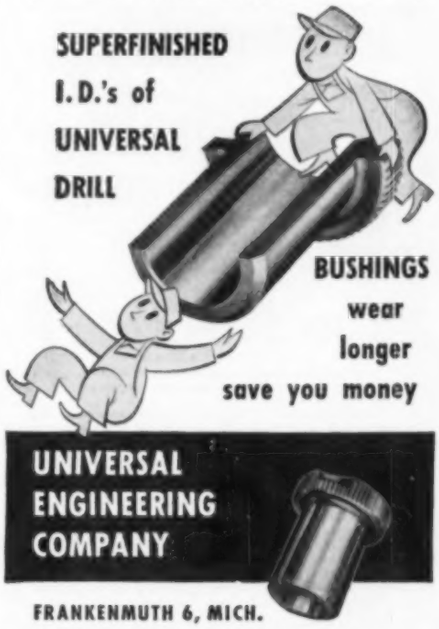
Contacts machined from cold rolled steel. Flat eyelet at wire end is standard. Solder cup type contact available on special order.

Request Bulletin No. GS-2 for engineering data.

CANNON ELECTRIC

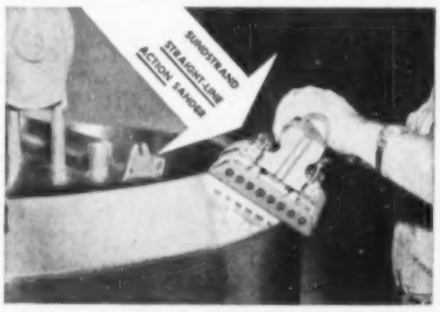
3209 Humboldt Street, Los Angeles 31, California. Canadian factory: Toronto, Ontario. World export: Frazar & Hansen, San Francisco, New York and Los Angeles.

BREVITY—Identify by IEN - 5769 if you write the maker



UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 6, MICH.

BREVITY—Identify by IEN - 5770 if you write the maker



Speeds graining and blending-in of welded seams on stainless steel work

Fast, *smooth* way to carefully finish off seams in stainless steel products. Sundstrand *Straight-Line Action* removes scratches, defects . . . blends-in and grains the seam perfectly after assembly. Sundstrand Air Sanders are available in single or double pad models . . . for wet or dry sanding on flat or curved surfaces . . . to handle almost any sanding operation on wood, metal or plastics. See your local distributor or write us today for bulletin IE-6.

SUNDSTRAND AIR SANDERS
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

BREVITY—Identify by IEN - 5771 if you write the maker

New! timely technical data on non-hardening STRAIGHT-CHROMIUM STAINLESS TUBING

for pressure and mechanical uses

SEND FOR BULLETIN TDC-140

THE BABCOCK & WILCOX TUBE COMPANY

B&W STAINLESS and WELDED TUBES

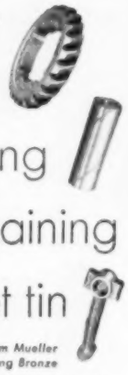
Executive Offices: Beaver Falls, Pa. General Offices & Plants: Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

TA-1633-G

BREVITY—Identify by IEN - 5772 if you write the maker

MUELLER BRASS CO.

600 series
a better bearing
bronze containing
no hard-to-get tin



Four typical parts forged from Mueller Brass Co. "600" series Bearing Bronze

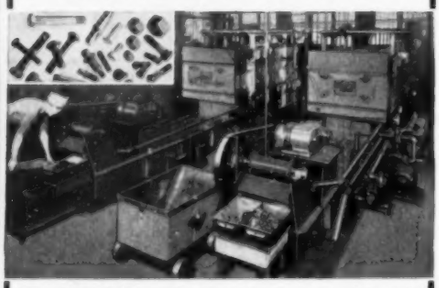
If you use gears, connecting rods or other parts of bearing metal in your products, it will pay you to investigate Mueller Brass Co. "600" series, a forgeable bronze that ***contains no critical tin.*** This bearing metal outperforms phosphor bronze and other bearing metals and will save you money in your applications. "600" series alloys can be forged into relatively complicated shapes . . . have low coefficient of friction . . . high resistance to corrosion and a tensile strength 2½ times greater than cast phosphor bronzes. There is a "600" series alloy with the properties to fit your bearing metal needs . . . write today for further facts.

MUELLER BRASS CO. PORT HURON 27, MICHIGAN

64-B

BREVITY—Identify by IEN - 5773 if you write the maker

CLEAN HARDENING
IS NO PROBLEM with AGF



The AGF Model 191 Reciprocating Furnace and Quench Tank provide *continuous clean hardening* results on a trouble free basis.

Developed and constantly improved by the PIONEER makers of industrial gas equipment—you can depend on AGF—

WRITE FOR BULLETINS
815 AND 820

AMERICAN GAS FURNACE CO.
974 LAFAYETTE STREET, ELIZABETH 4, N. J.

BREVITY—Identify by IEN - 5774 if you write the maker

...NEW!
AMERICAN "PAK-IT" Hand Truck

The "PAK-IT" is designed to meet the need for a sturdy, lightweight hand truck that will move up to 50-inch high loads with greatest efficiency. Rolls smoothly, quietly, easily through tightest spots in plant, store, on platform or motor truck. "PAK-IT" gives you 5 new American features.

The American Pulley Company
4248 WISSAHICKON AVE., PHILADELPHIA 29, PA.

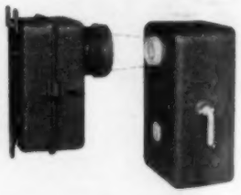
Please mail free American "Pak-It"-Truck Catalog

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ( ), STATE _____

BREVITY—Identify by IEN - 5775 if you write the maker

SIGNALING . . Photoelectric alarm guards enclosed area against intrusion

Source: PHOTOSWITCH INC.
75-79 Broadway, Dept. IEN, Cambridge 42, Mass.



Light source Type L60B and photoelectric control Type A2-OC-2 make up this new Set-PIA alarm equipment. The light source produces an invisible infrared beam that will span a maximum of 50 feet. Momentary interruption of this beam from its focus upon the control actuates a relay in the control to operate an external alarm device supplied by the user. The alarm is silenced by operating a manual or automatic reset switch. Operation is on 110-volt 60-cycle ac. The relay is a single-pole double-throw unit with contacts rating 10 amp. on 110-volt ac.

Bulletin PI-511, 4 pages, presents illustrated description of the equipment, includes a circuit diagram.

BREVITY—Identify by IEN - 5776 if you write the maker

ROOFS . . Asphalt base adhesive applies cold for built up roofing

Source: ZONE CO.
915-19 N. Main St., Fort Worth 6, Texas

Lists at $1.61 to $1.76 per gallon

Adhesive No. 9 is a new asphalt-base liquid for brush or spray application to adhere roofing felt in place and to cement flashings and seams. It produces water-tight junctions between roof decks and vertical surfaces where there is an overlapping of roofing material.

The material becomes tacky within 5 min. after application. It dries in about 4 hours. It remains pliable in service. Packaging is in 15-gal. pails to multiples of 55-gal. barrels. Coverage is 100 sq. ft. for 1½ gallons.

BREVITY—Identify by IEN - 5777 if you write the maker

CUTTING . . Electric iron tip to heat-cut plastic and to mark wood

Source: UNGAR ELECTRIC TOOL CO.
609-17 Ducommun St., Los Angeles 54, Calif.

No. 540 is a new chisel-shaped brass tip that threads interchangeably into the company's Hi-Heat electric soldering iron, previously described IEN-7221-50. Overall length of the iron with the tip in place is 7½ inches. Weight is negligible. The new tip will cut and strip vinyl plastic insulation from wire. It will cut and mark various plastics and wood. It will cut and also will seal woven-plastic materials.

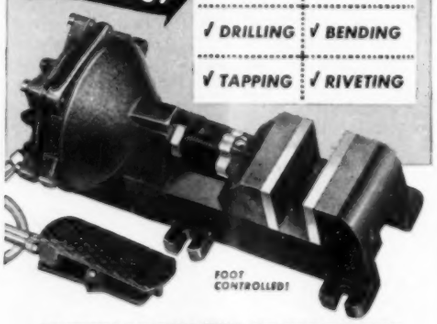
List price for the holder with a 5½ ft. rubber-covered extension cord and plug is $1.00. The tip adds $1.25.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5778 if you write the maker

SPEEDY AIR VISE

SPEEDS UP
✓ MILLING ✓ PUNCHING
✓ DRILLING ✓ BENDING
✓ TAPPING ✓ RIVETING



GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings. . . . . . only **$29.90**

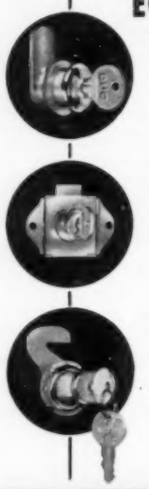
Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • Armitage Ave. • Chicago 39, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

BREVITY—Identify by IEN - 5779 if you write the maker

SPECIALIZING IN ORIGINAL EQUIPMENT LOCKS



ILLINOIS

CABINET LOCKS

Hundreds of styles and sizes in cabinet locks for wood or metal installations available for original equipment applications.

Illinois Lock engineers are always ready to cooperate with you in working out special locking problems.

For a complete service of your next lock problem—call Illinois.

DUO LOCKS—Finest in lock quality—practically unlimited key specifications—virtually pickproof—non-duplicatable style keys.

ILLINOIS LOCKS—Economy price cylinder locks—many key changes—construction avoids failure due to dirt or freezing.

ILLINOIS

THE ILLINOIS LOCK COMPANY
822 SOUTH ADA STREET • CHICAGO 7, ILLINOIS

BREVITY—Identify by IEN - 5780 if you write the maker

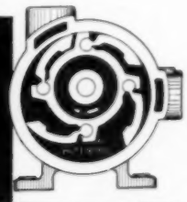
Design with AIR!
Pressure • Vacuum • Suction

Handle all these jobs!

Lifting—holding—chucking—sorting—cleaning—drying—cooling—separating—mixing—agitating—feeding—blowing—leak-testing—pressure-boosting, etc.

COUNTLESS jobs are done faster, simpler, less expensively by using pressure, vacuum or suction provided by Leiman Air Pumps. Air is the only reliable, trouble-free solution to many operations. Learn more about the great possibilities of designing with air. Leiman engineers offer over 60 years' experience with thousands of air applications. Outline your application for recommendation and suggestions. Write for data outlined below.

Your most efficient air source—
LEIMAN AIR PUMPS



Take up their own wear!

IF an air pump can do it—a Leiman Air Pump will do it best! Simple, compact design provides greater capacity, size for size . . . has fewer moving parts . . . provides a continuous flow of air . . . is extremely quiet in operation . . . uses no gaskets or packing . . . maintains leakless fitting for life . . . requires no storage tanks . . . needs little or no maintenance . Range of sizes for pressure up to 25 lbs. p.s.i. or vacuum up to 29". Specify Leiman Air Pumps on equipment you buy—install them in equipment you build. Get engineering data.

Exclusive Leiman hinged wing design permits wings to wear uniformly, maintaining full pressure or vacuum, after 15 and 20 years' steady service.

WRITE FOR ENGINEERING DATA

•**16-PAGE CATALOG** showing construction, types, sizes, capacities, etc.

•**APPLICATION FOLDER.** Contains 60 "how-to-do-it" blueprints of actual applications. Will suggest many more.

LEIMAN BROS., Inc.
166 Christie St., Newark 5, N. J.
AIR PUMPS • AIR MOTORS • SAND BLASTS • DUST COLLECTORS

BREVITY—Identify by IEN - 5782 if you write the maker

• This is typical of what is being said about these new abrasive discs.

Advantages over single abrasive layer coated discs:

- Greater economy.
- Longer life — 15 to 20 times.
- Faster, sustained rate of cut.
- Safe — strong — resists tearing.
- Increased labor savings—less disc changing.
- Available in a wide range of grits, grades and structures — permit control over rate of cut and finish.

Typical applications—Blending welds . . . Removing rust and scale . . . Finishing sheet metal jobs . . . Cleaning weld spatters.

Order Today for a Trial.

Sizes available for immediate shipment 7 x ⅛ x ⅞ } in any of these 9 x ⅛ x ⅞ } grit sizes: 36, 54, 80

BAY STATE

BAY STATE ABRASIVE PRODUCTS CO., Westboro, Mass.

Branch Offices and Warehouses—Chicago, Cleveland, Detroit, Pittsburgh. Distributors—All principal Cities. In Canada: Bay State Abrasive Products Co., Canada Ltd., Hamilton, Ontario.

Top Performance Consistently Duplicated

BREVITY—Identify by IEN - 5783 if you write the maker

TRUCKS AND TRAILERS MOVE FASTER, EASIER ON NEW WHEELS BY ELECTRIC

Modernize baggage-trucks, industrial trailers, floor trucks, mail carts and other portable equipment with new ELECTRIC wheels **for faster, easier handling.** There is an ELECTRIC wheel for every job.

Our 65 years of engineering "know-how" assures you of top performance from ELECTRIC equipment.

ELECTRIC wheels are furnished with or without roller bearings to fit your own axles or complete with axles—steel tires, molded-on-tires, or pneumatic tires. All types are available in a full range of sizes.

Our experienced engineers are always at your service.

WRITE FOR COMPLETE INFORMATION

ELECTRIC WHEEL CO.

2814 SPRUCE · QUINCY, ILLINOIS

BREVITY—Identify by IEN - 5784 if you write the maker

ACCURATE INFORMATION

IS VITAL WHEN YOU DEAL WITH

TEMPERATURE and RELATIVE HUMIDITY!

. . . Rely On **Bendix-Friez**

With the Bendix-Friez portable humidity and temperature recorder, 10 or 30 hour records may be kept on convenient 3" x 5" charts. Compact design and superior precision make this handy instrument ideal for taking on-the-spot recordings covering any productive process or plant condition. For more detailed information write to:

Model 160
Portable Humidity and Temperature Recorder

FRIEZ INSTRUMENT DIVISION of
1344 Taylor Avenue · Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Ave., N. Y. 11, N. Y.

BREVITY—Identify by IEN - 5785 if you write the maker

WINDING . . Multiple coil machine handles wire from No. 16 to No. 42

Source: ASSOCIATED PRODUCTION CO.
160-64 N. Clinton St., Chicago 6, Ill.

Model M-50 is new design of the company's automatic multiple-coil winding machine to produce paper insulated coils to 10 in. in diameter by 5 in. in length. Maximum arbor space is 36 inches. Winding traverse is driven by a single lead screw with a reversing electrically-operated clutch. Spindle drive is by a variable-speed motor. Operation is checked by a Veeder-Root counter. The machine measures 62 by 28 by 30 in. in height to the top of its bed. Overall height to the top of the rack is 72 inches. Speed is to 2,000 rpm.

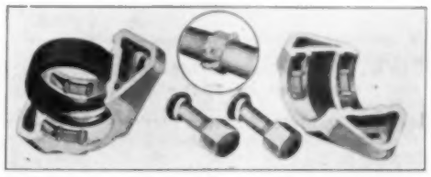
The assembly includes lever control for removing the arbor from the machine and a hand spiral attachment for spiral winding. Steel guide rollers provide adjustment for width of coil. Tension devices control movement of the wire. The steel pedestal base is equipped with a double electric outlet for soldering-iron connection.

Note . . We should have presented this machine some months ago but failed to do so through an error on our part. It is described now as new equipment for your consideration.

BREVITY—Identify by IEN - 5786 if you write the maker

PIPE FITTING . . Clamp type coupling to flexibly join unthreaded pipe ends

Source: GUSTIN-BACON MFG. CO.
1412 W. 12th St., Kansas City 7, Mo.



New design of the company's Rolagrip pipe coupling, previously described IEN-4779-44, is available with a synthetic gasket made of Chemigum for use in a temperature range between minus 65 and plus 200 deg. F. The gasket is a cup shaped element with inward-facing lips that contact the pipe surface and compress when the coupling is tightened in place.

Steel rollers bite into the pipe and into the recesses in the housing on the two sides of the gasket when the bolts are tightened. These rollers have sufficient freedom of movement to take care of expansion and contraction and to permit angular deflection. They prevent excessive separation between the pipe ends.

Sizes range from 1½ to 12-in. for working pressures from 1000 to 600 pounds. Two sizes, 3 and 4-in., are available for 2,000-lb. pressure. Four sizes, 4 to 7-in., are supplied for tubing in a pressure range between 1,000 and 500 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 5787 if you write the maker

Lapp AUTO-PNEUMATIC PULSAFEEDER

piston-diaphragm metering chemical pump with automatic output control

Applicable to all pneumatic or electro-pneumatic instrumentation. Provides automatic metering in response to variable flow, pH, temperature, liquid levels, pressure, or other processing variables. Operates at constant speed—variable flow results only from variation in piston stroke length, controlled by pneumatic cylinder. Pumping head isolates chemical being pumped.

WRITE for complete description and specifications. Lapp Insulator Co., Inc., Process Equipment Division, 428 Maple St., LeRoy, N. Y.

Lapp
PROCESS EQUIPMENT
CHEMICAL PORCELAIN VALVES · PUMPS · PACKING RINGS
PULSAFEEDER CHEMICAL PROPORTIONING PUMPS

BREVITY—Identify by IEN - 5788 if you write the maker

OTC ANNOUNCES

SENSATIONAL POWER-TWIN HYDRAULIC PULLER
WITH CENTER HOLE
REVOLUTIONARY ADDITION TO THE FAMOUS OTC PULLING SYSTEM

- Fits all OTC pulling units
- Works in any position
- Pushes—Pulls
- Faster than screw operation
- Eliminates torque
- More powerful— No friction
- Easier—just pump strokes
- Safer—remote control

CENTER HOLE permits Power-Twin to do jobs no other hydraulic ram can do . . . makes possible application of direct force . . . fast, easy, unlimited adjustment . . . versatile interchange of parts.

LIGHT — COMPACT — POWERFUL — SAFE

The fastest, easiest working, handiest Push-Puller in history . . . sensational in performance, its time and labor saving ability and low cost make it a must for any shop. See your jobber for complete information or write us.

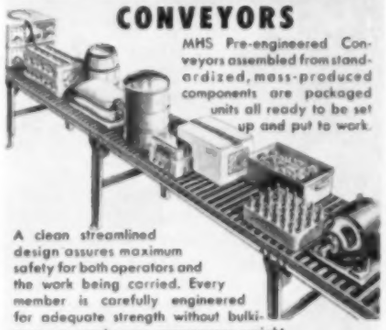
Spline shaft bearing comes off quickly with Power-Twin and OTC Push-Puller and 952 attachment.

No problem to remove driver gear with OTC Power-Twin and 1003L Grip-O-Matic.

OWATONNA TOOL COMPANY
371 CEDAR STREET · OWATONNA, MINNESOTA

BREVITY—Identify by IEN - 5789 if you write the maker

+ Plus Values OF MHS PRE-ENGINEERED CONVEYORS



MHS Pre-engineered Conveyors assembled from standardized, mass-produced components are packaged units all ready to be set up and put to work.

A clean streamlined design assures maximum safety for both operators and the work being carried. Every member is carefully engineered for adequate strength without bulkiness—no waste—no unnecessary weight.

Write for Bulletin PE-1 or for a quotation based on your specific requirements.

Mechanical Handling *Systems, Inc.*
4605 NANCY AVE. · DETROIT 12, MICH.
Offices in Principal Cities

BREVITY—Identify by IEN - 5790 if you write the maker

buell KNOWS DUST RECOVERY

Buell Iron Tangential Cyclone

Buell "SF" Electric Precipitator

Combination Cyclone-Precipitator Unit

WHENEVER industrial engineers discuss valuable dust recovery, Buell is the big name mentioned. For Buell offers knowledge and capabilities in dust recovery second to none. Only Buell Precipitator recovers ultra-fine dust with "Stedi-flow" dust fall – continuous cycle rapping that means constant peak efficiency. Buell large diameter cyclones do not plug, require next to no maintenance. Complete details on both types of equipment are available. Buell Engineering Co., Suite 5030, 70 Pine St., New York 5, N. Y.

buell

Engineered Efficiency in **Dust Recovery**

BREVITY—Identify by IEN - 5791 if you write the maker

2 DUMORE DRILL HEADS cut multiple-drilling costs in half

for Omco Products Corporation

PROBLEM: This Ohio subcontractor was getting only 90 pieces per hour, drilling 3 holes in a small airplane part. Set-up used was a tumble jig and a 4-spindle multiple drill head.

SOLUTION: Output was doubled and costs cut from $10.95 to $5.82 per thousand by set-up shown above. One Dumore head drills from left, one from right, and handpress from above. Hand trip controls Dumore heads.

Would you pay $200 to save $5,000 a year . . . $400 to save $10,000? Sure you would. And that's the kind of savings users of small drills are getting with the new Dumore Automatic Drill Head.

You'll have to be the judge of how much this revolutionary tool can save you, because only you know your problems. That's why we're urging you to write for the facts Today!

Write for free CERTIFIED REPORT

COMPLETE JOB DATA by an unbiased research organization

The DUMORE Company
Dept. F-47, RACINE, WISCONSIN
Export address: 13 E. 40th St. New York, N.Y. U.S.A.

BREVITY—Identify by IEN - 5792 if you write the maker

ARE YOUR PLANT AND FACILITIES BURIED?

Model #18

Plants and machinery buried in dirt and debris won't meet our country's increasing production demands. Keep your plant clean at all times.

Doyle Vac-Its are vital to your defense programs. Write Doyle today. No obligation.

Doyle VACUUM CLEANER CO.
2235 Stevens St., S. W. Grand Rapids 7, Michigan

BREVITY—Identify by IEN - 5793 if you write the maker

GET THE *Inside Facts* about unusual multi-purpose thermostat

Send *now* for free booklet explaining the operation of a unique thermostat. Find out how it can help you. Used to control heat, humidity, vapor level, radiant heat, pressure, and other variables, low-cost Fenwal THERMOSWITCH thermostats have a single-metal shell that expands or contracts *instantaneously* with temperature changes, making or breaking totally enclosed electrical contacts. Fast, accurate, sensitive.

Fenwal **THERMOSWITCH®**
The Precision, Multi-Purpose, Thermostat Control
SENSITIVE...*but only to heat*

MAIL TODAY

FENWAL, INC., 76 Pleasant St., Ashland, Mass.
111 South Burlington Ave., Los Angeles 4, Cal.
Temperature Control Engineers

Please send me the Fenwal booklet "Everything you want in a thermostat."

Name..... Position.....
Company.....
Street.....
City..... Zone..... State.....

BREVITY—Identify by IEN - 5794 if you write the maker

SOLDERING . . Electric iron with illuminated single point electrode

Source: CALIRI MFG. CO.
17 Union St., Lawrence, Mass.

New design of the Cal-88 soldering iron, previously described IEN-3685-50, employs a short center pole and a free-floating conductor rod over which the electrode or tip is placed and tightened by hand. The tip and other parts can be replaced in a minute or two in the field so the iron need not be returned to the factory when repair is required. The new construction also permits use of a pencil-point tip, 1/64-in. diameter, for access into confined locations.

Control is at a double-acting trigger switch to select 100 or 150-watt input through a fuse-protected transformer in the housing. Operation is on 110-volt 60-cycle ac. A light in the head above the electrode spots the working area. The iron weighs 1½ pounds. It has a pistol-grip handle.

BREVITY—Identify by IEN - 5795 if you write the maker

STEEL . . High speed tool steel in bars, billets, forgings, ingots

Source: VANADIUM-ALLOYS STEEL CO.
46 Thomas St., Latrobe, Pa.

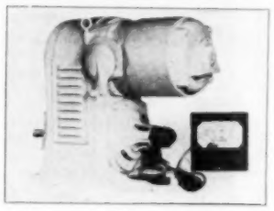
Hardens at 2,225 deg. F.

Van-Cut is a new molybdenum-tungsten high-speed steel. It combines good characteristics in grinding, good wear and heat resistance in service. It is a general-purpose steel for fine or heavy cuts when made into hobs, chasers, milling cutters, lathe and planer tools. Orders for the steel are not subject to tungsten limitations. Range of available sizes is from ¾ to 6 in. in cross-section.

BREVITY—Identify by IEN - 5796 if you write the maker

DRIVE . . Tachometer attachment applies on company's variable drive

Source: U. S. ELECTRICAL MOTORS INC.
202 E. Slauson Ave., Los Angeles 54, Calif.



Operating speed is indicated as a per cent of maximum speed by a new tachometer that has been developed for the company's Varidrive line of variable-speed motor drives. The indicator connects by a two-conductor cable to a ball-bearing genegator that mounts on the Varidrive output shaft. Actually the indicator is an electric meter reading current developed by the generator in terms of speed. The new unit is known as Model R-1. It applies on the company's Varidrive from ¾ to 50 hp. with speed between 2 and 10,000 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5797 if you write the maker

PUSH BUTTON INSULATION RESISTANCE TESTING with VIBROTEST

- RANGES TO 50,000 MEGOHMS
- NO CRANKING
- NO LEVELING
- ALL-ELECTRIC
- RUGGED
- FULLY PORTABLE
- ACCURATE

VIBROTEST is built throughout to make insulation resistance testing FAST, EASY and ACCURATE for you. No laborious cranking...No mechanical parts to get out of order...Only two binding posts for ALL tests. Several Models have A.C. and D.C. volt ranges, as well as low resistance ohmmeter.

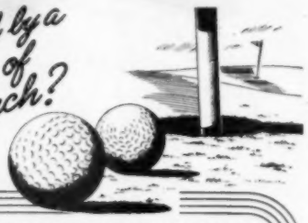
This is an instrument that makes insulation resistance testing a "push-button" affair! Ask for more information.

WRITE FOR BULLETIN 2-A

ASSOCIATED RESEARCH, Incorporated
"Precision Instruments Since 1932"
3762 West Belmont Avenue • Chicago 18, Illinois

BREVITY—Identify by IEN - 5798 if you write the maker

Stymied by a fraction of an inch?



AMES

THERE IS AN AMES INDICATOR OR GAUGE FOR VIRTUALLY EVERY MEASURING PROBLEM

Today increased production is the keynote of the nation's industrial plants. Outmoded inspection methods slow down the effort. Perhaps Ames can assist you. Ames full line of micrometer dial indicators and micrometer dial gauges plus their unequalled design and engineering ability, offers you the solution to practically any measuring problem controlling quality of process or product you may have. Ames experience includes the successful solution of out-of-the-ordinary problems such as the checking of chatter in grinding, the thickness of potato chips, the stretch of bolts as well as the everyday quality control problems of industry. Call on Ames today—the service is yours for the asking. Don't let production be stalled by outmoded inspection methods.

Representatives in principal cities. **B. C. AMES CO.** 23 Ames Street Waltham 54, Mass.
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

BREVITY—Identify by IEN - 5799 if you write the maker

Amazing **ALEMITE OIL-MIST**
AUTOMATIC LUBRICATION SYSTEM

Revolutionizes Machinery Lubrication

Unbelievably simple system atomizes oil into mist, distributes it through tubing to bearings. Bathes all bearing surfaces with fresh, clean, cool oil film. Uniformly maintains oil film on all sliding, rubbing, rolling parts regardless of variations in load, temperature or speed! No "peaks and valleys" of lubrication.

Fully automatic—eliminates waste and the uncertainties of the "human element." Extends bearing life as much as 17½ times. Seals bearings against dirt and abrasives. Cuts oil consumption as much as 90%. Greatly reduces the number of oils needed.

Desk-Top Demonstration, No obligation

A note on your Company letterhead will bring a trained Alemite Lubrication Representative to your offices. In a brief yet thorough Desk Top Demonstration, he will tell you how Alemite Oil-Mist can provide more positive lubrication at lower cost than you ever thought possible. Write Alemite Division of Stewart-Warner, Dept. K-61, 1850 Diversey Parkway, Chicago 14, Illinois

STEWART WARNER

Alemite OIL-MIST Automatic Lubrication System

BREVITY—Identify by IEN - 5801 if you write the maker

BURNDY • BURNDY

BURNDY • BURNDY • BURNDY

for top efficiency make connections with the 'BIG 3'

QIKLUG
wrench-installed terminal for rugged service.

SERVIT
exceptionally strong, compact service connector
See your Burndy distributor

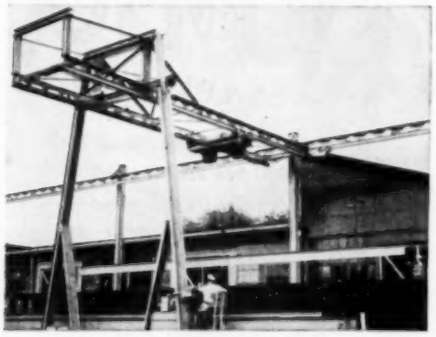
SCRULUG
light-duty, one-piece compact terminal

BURNDY

BURNDY ENGINEERING CO., INC.
NEW YORK 54, NEW YORK

BREVITY—Identify by IEN - 5802 if you write the maker

CUTS LABOR COST 66%



Louden SINGLE-LEG GANTRY CRANE PERMITS 3 MEN TO LOAD GONDOLA CAR IN LESS TIME THAN FORMERLY TAKEN BY A 9-MAN "BULL GANG"

In plant after plant having railroad sidings, labor savings of as much as 66% have been realized by the installation of a Louden single-leg Gantry crane. Equipped with a cantilevered girder extension, such a crane can be used to load and unload open body trucks as well as gondola and flat cars.

Loading docks can be completely eliminated because the materials received can be moved directly to the warehouse or start of a fabrication process over the Monorail overhead tracks. The motor-propelled hoist unit simply rolls from the crane girders onto tracks which extend to any location inside the building. In reverse, the system can deliver finished products into waiting cars without intermediate handling.

The hoist capacity can be designed to handle loads of any weight or bulk. The length of the runway can be sufficient to accommodate the entire siding, with as many cars as desired served by the crane.

FREE ILLUSTRATED BOOK
Case histories telling how Louden Monorail Systems have saved time and money for widely different kinds of industries are described and pictured in a new 36-page book called, "Economical Material Handling". Write for it.

THE LOUDEN MACHINERY COMPANY
204 S. Superior Ave., Fairfield, Iowa

Louden
OVERHEAD MATERIAL HANDLING

BREVITY—Identify by IEN - 5804 if you write the maker

CONVEYING . . Portable incline assembly belt and flight units, reversing drive

Source: BONDED SCALE & MACHINE CO.
50 Bellview, Columbus 7, Ohio

Belt and flight conveyors, built on a structural steel frame, have been added to the company's line. Both are mounted on pneumatic-tired wheels and are adjusted for elevation by turning a hand crank on a worm-and-gear self-locking winch. The reversing motor drive is connected by belt and chain. The main belt in one case and chain-assembled flights in the other ride on a 10-gage steel plate on the load-carrying side. The motor is subject to specification for characteristics.

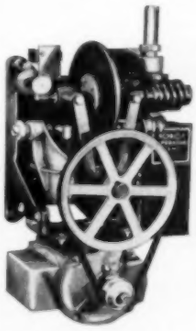
The belt assembly is available in four widths between 12 and 32 in. measured over the belt. Overall length is 15, 20 or 25 ft. in each width. Maximum delivery height, based on a 33-deg. angle, is 111 in. on the shortest unit, 176 in. on the longest one.

The flight conveyor is available in four flight widths between 12 and 24 in. with flight height ranging from 2 to 6 in. and standard spacing at 60 inches. Chains on the two sides move the flights along. They ride over sprockets on shafts carried in Sealmaster ball-bearing pillow blocks.

BREVITY—Identify by IEN - 5805 if you write the maker

DOOR OPERATOR . . Motor drive operates doors, gates, rotating units

Source: ROBOT APPLIANCES INC.
13167 Prospect Ave., Dearborn, Mich.



Series SMS is new design of the company's motor-driven remote-control operator. It is a further development of Type SM previously described IEN-12086-49. The new assembly is available in three sizes with ¼, ⅓ and ½-hp. motor, each for mounting in space measuring 12 by 12 by 20 inches.

Horizontal output can be specified with shaft speeds at 18 to 72 rpm. Vertical output also is available in a range between 1 and 200 rpm., or less. The motor is available for standard electrical specifications on ac. or dc. circuit. Feature in the operation is a friction-type transmission which permits stopping all movement should the driven element meet an obstruction. Automatic electric cutouts operate after a predetermined delay interval.

Various arrangements include continuous rotation in one direction or in a reversing cycle, intermittent rotation under the same two conditions, jog operation in one or two directions and various timed and remote-controlled cycles.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5806 if you write the maker

AIR COOLED TRANSFORMERS UP TO 167 KVA

CLASS "B" INSULATION

The use of Acme Electric Air Cooled transformers eliminate the need for a separate transformer vault, expense of oil for insulating purposes and frequent inspection. The Class "B" insulation (80° C temperature rise) line of Acme Electric transformers are available in capacities from 3 to 167 KVA with primary voltages up to 2400 volts.

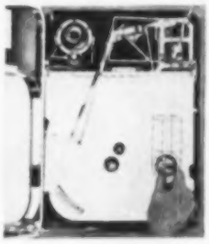
Their design assures high efficiency performance. Their construction guarantees long trouble-free service.

ACME ELECTRIC CORPORATION
266 WATER ST. CUBA, NEW YORK

Acme ACME Electric
TRANSFORMERS

BREVITY—Identify by IEN - 5807 if you write the maker

COMPLETE EASE OF OPERATION in a controller



Any control action easily reproduced.

The Bristol Series 500 Air-Operated Controller permits you to do it by *merely setting a dial!*

This saves hours of shutdown.

Easiest to service, too. Simple design, fewest parts, close-tolerance manufacturing—make the instrument interchangeable throughout. One simple adjustment puts it back in exact calibration after complete disassembly and reassembly.

Five types for controlling temperature, flow, pressure, liquid level, humidity, pH. Write for Bulletin 120. THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn.

BRISTOL

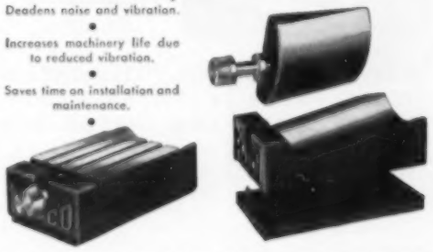
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

BREVITY—Identify by IEN - 5808 if you write the maker

NEW VIBRATION ABSORBING MACHINE LEVELING

Empco JACK

Deadens noise and vibration.
•
Increases machinery life due to reduced vibration.
•
Saves time on installation and maintenance.
•



Tests have proven that "Controlled vibration means increased productivity and decreased maintenance costs." That is why the new Empco Jacks, featuring VI-SORB, the vibration absorbing mounting pads, save many times their initial cost. With the combined features of Empco's self-aligning, two-way control Jacks and VI-SORB pads, set-up and maintenance costs are greatly reduced. For complete data and prices on the new Empco Jack with VI-SORB pads, write or wire today. Immediate delivery.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

BREVITY—Identify by IEN - 5809 if you write the maker

WHAT DO YOU KNOW about Laminated Plastic TUBING?

Take Synthane laminated plastic tubing for example. Do you know that it is non-metallic, corrosion resistant, has excellent dielectric strength? Do you know it is made in rolled and molded forms in many grades and sizes? Do you know which grades are best for what purposes? Or how Synthane compares to metal tubing in strength and weight?

For the answers to these and other tubing questions you may have, use the coupon below to get your copy of the Synthane Tubing Folder.

Sheets
Rods
Tubes
Molded Macerated
Molded Laminated
Fabricated Parts

SYNTHANE

SYNTHANE CORPORATION
South River Road
OAKS, PENNSYLVANIA

Gentlemen:
Please send me the Synthane Tubing folder.

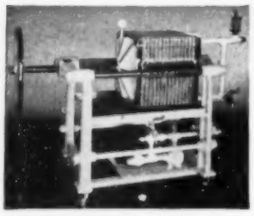
Name _____
Firm name _____
Address _____
City _____ Zone _____ State _____

BREVITY—Identify by IEN - 5810 if you write the maker

With a valve to suit the job air cylinders can be made to work wonders. Mead Air Valves, Single and Double Acting Air Cylinders, will help you cut costs, speed up work. Write for complete new Catalog of famous Mead air-operated devices!

MEAD SPECIALTIES COMPANY
4114 N. KNOX AVE., DEPT. EA-61, CHICAGO 41, ILL.

BREVITY—Identify by IEN - 5811 if you write the maker



ERTEL ASBESTOS DISK

UTILITY FILTER

for coarse prefiltration to germproof filtration

USES ERTEL ASBESTOS FILTER SHEETS FILTER PAPER • FILTER CLOTH FILTER CLOTH AND FILTER AID

★ EU Model Ertel Utility Filter is available in a number of sizes holding from 10 to 100 16" x 16" filtering surfaces.

One of its most important features is the absence of rubber washers or gaskets. The filter medium forms a perfect seal around the edges of the filter frames and prevents loss of liquid. The standard Ertel single handwheel effects a simple complete closure. Can be furnished with or without pump, motor and complete pressure control.

ERTEL SERVICE: We invite you to make use of our consultation service. Our engineering staff is always available to help in solving your Liquid Handling problems.

ERTEL ENGINEERING CORPORATION
KINGSTON NEW YORK
Representatives in Principal Cities

MANUFACTURERS OF HIGH GRADE ERTEL ASBESTOS FILTER SHEETS
ASBESTOS SHEET FILTERS • CYLINDER TYPE DISC FILTERS
PYROGEN FILTERS • VACUUM BOTTLE FILLERS • MIXERS • CAPPERS
CENTRIFUGAL AND SELF-PRIMING STAINLESS STEEL PUMPS

BREVITY—Identify by IEN - 5812 if you write the maker

500 GPM
WaterFOG NOZZLE operating from Aerial Ladder Quickly Blackens Huge Fire

Entire 3rd Floor cleared of smoke and hot gases immediately permitting firemen to advance into building with handlines in one minute — Fire under control within 5 minutes.

A huge 500 GPM Rockwood WaterFOG Nozzle, utilizing a new type of attack from an aerial ladder played an important role in putting out a two alarm fire in a 3 story building.

The fire originated on the 2nd floor and extended to the 3rd floor by means of an inside stairway and elevator shaft. Firemen were unable to advance with handlines due to extreme heat. Rockwood 500 GPM WaterFOG Nozzle went into operation and in less than a minute the entire 3rd floor area was blackened out. Handlines were then brought in and within 5 minutes the fire was under control.

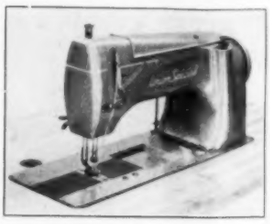
For more complete information write for bulletin B-500.

ROCKWOOD SPRINKLER CO.
40 HARLOW STREET WORCESTER 5, MASS.

BREVITY—Identify by IEN - 5813 if you write the maker

SEWING . . Lockstitch machine in single and two-needle assemblies

Source: UNION SPECIAL MACHINE CO.
443-47 N. Franklin St., Chicago 10, Ill.



Stitch Type 301 is produced by this new Lockstitch machine. It is available for both light and heavy-weight work in single-needle, Class 61800 and in two-needle design, Class 62200. Hook and hook shaft have been designed so removal of the hook does not require retiming or resetting of the point when it is replaced in the machine. Also the hook mechanism contains a mechanical opener. Presser foot pressure is applied by an enclosed coil spring and is adjustable by turning a thumb screw. The presser-foot lift mechanism, thread controller and tension discs are enclosed. Separate oil reservoirs are provided for each hook and for the main gear case from which lubrication is supplied to the lower mechanism.

BREVITY—Identify by IEN - 5814 if you write the maker

PERLITE . . Dry white powder for processing, insulating, extending

Source: GREAT LAKES CARBON CORP.
18 E. 48th St., 19th Floor, New York 17, N. Y.

Technical details on request

Perlite is processed to make available a new dry white powder containing cells or voids sealed by microscopic volcanic glass walls. The material has a chemical composition high in silicates and aluminum oxide with a small percentage of other elements. It is completely inorganic and is insoluble in water and most acids. It contains no oxidizing element and is low in electrical conductivity and vapor adsorption. The powder is available in a number of sizes and bulk densities that can be controlled within fairly wide limits.

The material is offered as a substitute for other materials in current short supply to apply as fillers, extenders, insulators, refractories, fire retardants, abrasives.

BREVITY—Identify by IEN - 5815 if you write the maker

PLIER . . For electric services, measures 6 inches, weighs 4½ ounces

Source: HERBRAND DIVISION
1009-13 Stone St., Fremont, Ohio

Two side cutters, a crusher, a wire stripper and two special jaws to bend wire, one round and one square, are combined in this new No. 150 all-purpose plier. It is designed particularly for electrical work in preparing and completing wire connections. Finish is in gunmetal with polished heads.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5816 if you write the maker

TORIT DUST COLLECTORS

Torit Dust Collectors are self-contained units for capturing and cleaning dust-laden air from grinding, polishing and other dust-creating machines. They are available in many sizes and models.

TORIT DUST COLLECTORS
watch discarded abrasive dusts and keep them from damaging parts or machines

The cards are stacked against you unless you watch these discards. Meld points for your side by equipping dust-creating machines with Torit Dust Collectors. Then there will be no dangerous discards until you are ready to clean up the game.

When playing for dollars you need Torit Dust Collectors for all dust-creating machines. Standard models will fit nearly all installations and special adaptations can be quickly created. For complete information and latest Torit Catalog, write:

TORIT
Manufacturing Co.
286 Walnut Street St. Paul 2, Minn.

BREVITY—Identify by IEN - 5817 if you write the maker

COMPARISON PROVES the VALUE of VEELOS—the Adjustable V-Belt

VEELOS V-BELTS	ENDLESS V-BELTS
What about ADJUSTABILITY ?	
Any length is instantly available from a single reel for *any* v-belt drive.	Standard or special lengths must be supplied for *individual* drives.
What about INVENTORY ?	
4 reels can care for every v-belt need in the O, A, B & C widths. No deterioration or obsolescence of spare belts.	316 sizes are required to provide a *complete* stock in the O, A, B & C widths. Spare belts not immediately used will age and deteriorate.
What about MAINTENANCE ?	
Belts can be adjusted or replaced without moving the motor.	Sliding or pivoted motor bases are necessary to replace endless v-belts.
What about OPERATING EFFICIENCY ?	
Full power delivery can be maintained because the tension of each belt in a matched set is kept uniform by removing or adding links.	Individual belts cannot be adjusted to maintain uniform tension and provide full power delivery.

VEELOS THE LINK V-BELT

Get all the facts . . . write for your copy of the Veelos Data Book.

MANHEIM MANUFACTURING & BELTING CO.
651 Manbel St., Manheim, Pa.

Adjustable to any length • Adaptable to any drive

BREVITY—Identify by IEN - 5818 if you write the maker

LIKE AN **ATOM-IC EXPLOSION**

Just ONE 1/32" pin-hole size faucet LEAK MUSHROOMS into ATOMIC WASTE of approximately 76,000 gallons of water yearly—COSTING: $10.13

@ $1 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 76,000 gallons costs approximately:

$27.65 if coal	**(7,900 lbs.)**
$38.00 if oil	**(633 gals.)**
$50.63 if gas	**(67,500 cu. ft.)**

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with 'SEXAUER' "EASY-TITES" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D. **"EASY-TITE"**

Faucet washers

. . . a modern laboratory triumph, are compounded from du PONT NEOPRENE instead of rubber — to withstand DESTRUCTIVE HEAT common in present-day super-heating water systems - that formerly broke down washer's structure (tested to withstand 300°F.)

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape . . . causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold TAPS—thus you slash water, fuel and labor costs.

THE NEW 'SEXAUER' CATALOG,
Edition F, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog F promptly.
J. A. SEXAUER MFG. CO., INC., Dept. K-61
2505-05 Third Avenue, New York 51.

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

as advertised in **THE SATURDAY EVENING POST**

BREVITY—Identify by IEN - 5820 if you write the maker

here's your ANSWER to the

colored wire shortage!

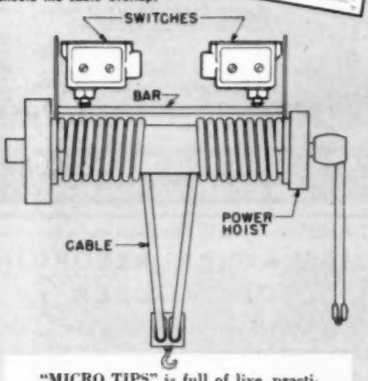
E-Z CODE WIRE MARKERS simplify the assembly of wiring circuits by number or standard NEMA color code–answer problems created by a colored wire shortage. They maintain accuracy...minimize rejections...simplify inspection...and get the most from new, inexperienced employees, even when assigned to the most complicated wiring projects. E-Z Codes, with the exclusive Speed-Tab, are faster to remove from carrying card, quicker to apply *(without moistening)* and adhere permanently to wire and cable, even when pulled through conduit. They are unaffected by heat and humidity. E-Z Codes are the efficient, low-cost answer to your colored wire shortage problem.

WRITE FOR SAMPLES TODAY!

BREVITY—Identify by IEN - 5821 if you write the maker

Plant Production Men find "MICRO TIPS" a real gold mine of ideas!

On power hoists there is danger of cable breakage and damage to the hoist when the cable overlaps. This shows how snap-action switches can be installed to light a lamp or sound a horn to signal the operator should the cable overlap.



"MICRO TIPS" is full of live, practical ideas like this which demonstrate the use of MICRO precision snap-action switches to protect plant equipment and personnel.

As replacement of present equipment becomes more difficult, you will find that your present equipment can be made more automatic and your production increased by the skillful use of MICRO products.

Send for your copy of "MICRO TIPS" today. Get on the regular mailing list and make sure you are familiar with the way other plant men in every phase of industry are finding snap-action switches an economical short cut to improved operations.

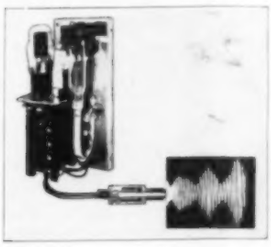
MICRO SWITCH Distributors with complete stocks are located in over 100 cities to serve you. Look in your classified phone book.

MICRO SWITCH
FREEPORT, ILLINOIS
A Division of Minneapolis-Honeywell Regulator Company

BREVITY—Identify by IEN - 5823 if you write the maker

WATER TREATING . . Ultrasonic unit precipitates lime from water

Source: VELAN ENGINEERING CO.
3 Exchange Place, Jersey City 2, N. J.



Crustex trade names new electronic equipment to produce an ultrasonic wave at frequency of 27,000 cycles at a vibrating head for assembly in equipment such as boilers, water heaters, washing machines, air conditioning units or other equipment in which lime deposit is a problem. The high-frequency impulse communicates mechanically to the liquid, causes particles of lime in the water to fall to the bottom of the enclosure from where they can be removed. Application also results in removal of accumulated scale from the container walls. The same effect can be produced in a pipe.

BREVITY—Identify by IEN - 5824 if you write the maker

FLOORS . . Mastic material to resurface concrete, steel, wood

Source: WARREN REFINING & CHEMICAL CO.
748-52 Prospect Ave., Cleveland 15, Ohio

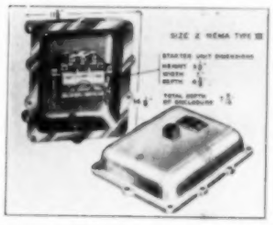
Packed in 30 gal. and 55 gal. drums

Nu-Krete is a new asphalt-base mastic floor-surfacing material that sets in 48 hr. following application on a floor surface. It can be spread to any desired thickness and carried out to a feather edge to provide a tough, flexible, rubbery surface that will carry a 12,000-lb. load on steel wheels. It can be employed indoors or outside and is not affected by changes in temperature and by contact with water, steam, sparks and a majority of acids.

BREVITY—Identify by IEN - 5825 if you write the maker

MOTOR CONTROL . . Magnetic starter, explosion-safe, weather-proof designs

Source: ARROW-HART & HEGEMAN ELECTRIC CO.
101-5 Hawthorn St., Hartford 6, Conn.



Sizes range from No. 0 to No. 4 in this new magnetic starter. It is assembled in a cast housing, employs the company's right-angle type of operating mechanism. Construction includes straight-through wiring, terminals accessible from the front, access to contacts for quick replacement, separated line and load circuits.

Size 2 NEMA Type 7 measures 7 by 4⅝ by 5½ in. in mechanism. The enclosure is 11⅝ by 7⅝ by 14⅛ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5826 if you write the maker

NO PUSH NO PULL with Moto-Bug

WHEN you haul with Moto-Bug you have *full power forward and reverse* . . . for traveling 1½ to 4 m.p.h. in either direction . . . for backing up . . . for spotting. There's no pushing, no pulling. Operator takes it easy . . . rides on rear step . . . has positive steering wheel for effortless driving. Handy 33" width clears narrow doorways, crowded aisles . . . turns in own length. Simple, standard-make 4 h.p. gasoline engine takes full load up 20% ramps. Carries 10 cu. ft. in big-capacity hopper . . . 1200 lbs. on sturdy 4-ft. flat-bed platform. Fork-lift attachment available. You'll be surprised at the low initial cost . . . Moto-Bug quickly pays for itself with more production per man-hour. Get the facts from your Kwik-Mix distributor, or write us NOW.

KWIK-MIX COMPANY [illegible] WASHINGTON, WIS.
Also Mfrs. of CONCRETE [illegible] MINGOUS MIXERS

BREVITY—Identify by IEN - 5827 if you write the maker

Century Serves the Electric Motor User in Two Important Ways

100 horsepower Century motor drives a blower for a glass blowing machine.

1 Century motors are designed and constructed for a long, dependable operating life.

2 Just as important — they are skillfully selected to match the operating characteristics of the many kinds of equipment they drive.

In CENTURY'S wide range of types and sizes (up to 400 H.P.) there are available: 4 standard classes of starting torque characteristics—6 methods of speed control—constant and short time ratings—4 basic classes of frame protection against atmospheric hazards—a dozen methods of mounting the motor to the equipment—plus many special specifications to meet the requirements of the BIG NAME equipment manufacturers who use Century motors.

Both a properly designed and constructed motor, plus skillful application, are required to give you top performance and long life on new ultra-modern production equipment.

Specify Century motors on all your equipment.

CENTURY ELECTRIC COMPANY
1806 Pine St. • St. Louis 3, Mo.
Offices and Stock Points in Principal Cities
CENTURY ELECTRIC COMPANY is celebrating its 50th year in the electrical industry.

704R

BREVITY—Identify by IEN - 5828 if you write the maker

COPY *60 times faster with* OZALID!

IT'S OZALID . . . the *speedy copying process* that reproduces anything drawn, typed or written 60 times faster . . . in *any* size. You get perfect copies of engineering plans, records, drawings, reports . . . everything*.

FREE: For complete information send for booklet. OZALID, Dept. H-9, Johnson City, New York. Or call your local OZALID distributor listed in the classified telephone book.

**If light won't shine through, an inexpensive intermediary step is taken.*

Cut Copying Costs . . . Use OZALID!

Johnson City, N. Y. • Ozalid in Canada—Hughes Owens Co., Ltd., Montreal
A DIVISION OF GENERAL ANILINE AND FILM CORPORATION.
"FROM RESEARCH TO REALITY."

BREVITY—Identify by IEN - 5829 if you write the maker

Ramps Tilt to Meet Any Truck Bed. Automatically Adjust to Changing Level.

Speed up HANDLING

WAYNE LOADING DOCK LIFTS

Save time and money with Wayne Hydraulic Leveling Ramps to adjust the level of the loading dock to the truck bed. Platform automatically adjusts itself. Material can be directly transported into and out of truck. Eliminates breakage and accidents. Cuts loading time in half.

THE WAYNE PUMP COMPANY
531 TECUMSEH STREET, FORT WAYNE 4, IND.

NATIONWIDE SERVICE

BREVITY—Identify by IEN - 5830 if you write the maker

G-E Capacitors prevent overload of transformers at American Can

When American Can installed three G-E capacitor equipments at its Los Angeles Milk Carton Division Plant, *it cut line current by 270 amperes.* This relieved an approaching overload condition on wiring and main transformers.

THEY SAVED $1500 A YEAR, TOO, because of a kva demand clause in the power contract. This is enough to pay for the capacitors in 26 months.

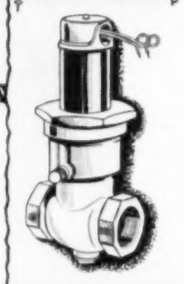
For more information, write for GEA-5167, "A Way to Cut Power Costs." *General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

407-203

BREVITY—Identify by IEN - 5831 if you write the maker

ATKOMATIC ELECTRICALLY OPERATED VALVES



ATKOMATIC Valves can TAKE it! EXTRA rugged to withstand more hard use than you'll ever demand of them. Sturdy, compact, built for any pressures up to 3,000 pounds. In thousands of installations, they are delivering dependable, trouble-free service.

Wide variety of types usable for any medium not harmful to bronze. Perhaps we have already worked out YOUR valve problems . . . why not present them to us without obligation? In your plant or on YOUR product, you can always depend on ATKOMATIC.

Send for Literature

ATKOMATIC VALVE CO.
545 W. ABBOTT ST., INDIANAPOLIS, INDIANA

BREVITY—Identify by IEN - 5832 if you write the maker

FORCE AUTOMATIC NUMBERING MACHINES

Columbia Model 150

6 WHEEL MODEL ILLUSTRATED
OTHER MODELS MADE TO ORDER

SEND FOR CATALOG E
SHOWING COMPLETE LINE

THREE QUARTERS OF A CENTURY'S SERVICE

WM. A. FORCE & COMPANY, INCORPORATED
64 WHITE STREET, NEW YORK 13, N. Y.

BREVITY—Identify by IEN - 5833 if you write the maker

DUST COLLECTING . . Electrostatic unit, complete assemblies to 96,000 cfm.

Source: TRION INC.
1951 Trion Bldg., McKees Rocks, Pa.

New application is now available in the company's line of electrostatic dust-collecting equipment. They include housing-enclosed ionizing-collecting cells, energizing power packs, water-wash equipment, and dry outlet filters to meet given requirements for capacity and occupied space. The enclosure for each assembly is equipped with lights to illuminate the interior and with hinged access doors protected by time-delay locks and signal lights to prevent entrance into the duct work while the circuits are closed. An assembly can be specified by stating the desired dimensions of the enclosure and air capacity.

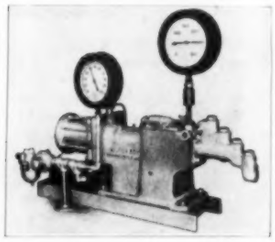
Smallest unit listed as standard in the line rates 1,600 cfm. at 85 per cent efficiency. It measures 28 in. in height by 25 in. in width and takes one electrostatic cell measuring 22 in. in width by 24 in. in height by 18 in. in depth. Largest assembly measures 16½ ft. in height by about 15 ft. in width. It takes 40 cells measuring 33 in. in width by 24 in. in height by 18 in. in depth. All of the parts are preassembled and match-marked at the factory prior to shipment for quick and correct assembly in the field.

Bulletin Form E-22, 8 pages, presents illustrated data on the elements entering into an assembly with accompanying dimensions, capacities for built-up units, custom-built packaged units, and standard packaged units.

BREVITY—Identify by IEN - 5834 if you write the maker

PUMP . . Reciprocating design for pressure testing to 25,000 pounds

Source: MILTON ROY CO.
1302 E. Mermaid Lane, Philadelphia 18, Pa.



New application is announced by the company for its previously developed assembly of reciprocating ball-check pump and pneumatic operating cylinder for hydrostatic testing of pressure vessels and leak detection of enclosures that are to operate under pressure. The pump can be made with ratings between 4 and 405 gph. with test pressure at 25 to 25,000 lb. per square inch. Feature in the pump action is its continuing reciprocation until balance is reached between the operating air pressure and the hydrostatic test pressure. At this point the pump stops. It will start again without further attention in the event of pressure drop.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5835 if you write the maker

Cuts grime from floors... and picks it up, too!

With its hundreds of flying cutters, the TENNANT Model "K" literally pulverizes incrusted grime . . . and picks it up, too! The job is done in one *fast, easy,* one-man operation. The powerful Model "K" gets in close to machinery . . . works fine in crowded aisles . . . doesn't interfere with production . . . cleans 6 to 20 times faster than hand labor . . . leaves clean, smooth floor *ready for traffic.*

- Cuts grime loose
- Smooths & levels
- Picks up sellage

This 16" REVO-TOOL has 336 cutters for extra-heavy grime.

Revolving drum with REVO-TOOL or other accessories loosens and hurls heavy sellage into large hopper. Suction pulls lighter dirt up into bag.

WRITE for Bulletin 81.5

G. H. TENNANT CO.
2574 2nd St. N., Minneapolis 11, Minn.

TENNANT

BREVITY—Identify by IEN - 5836 if you write the maker

EDWARD E. ROBINSON

METERING PUMP
Pots Transformers
for FTR FASTER

Federal Telephone and Radio Corporation reports increased production and reduced loss of compound in potting transformers by using the Robinson Metering Pump. You, too, may benefit by investigating this new production tool.

Specifications: Adapts to any production technique. **Not a gravity dispenser** — Forcibly ejects hot waxes and cements. **Thermostatically controlled heat** — Variable with a maximum reservoir temperature of 450°F. **Motor driven, clutch actuated** — 2/3 second per ejection. **Variable discharge** — Ejection changed in 2 seconds, without tools. **Reduced unit costs** — No skilled operator required. Saves material — reduces rejects. **Write for Bulletin No. 2A.**

EDWARD E. ROBINSON INCORPORATED
95 PARK AVENUE • NUTLEY 10, N. J.

BREVITY—Identify by IEN - 5837 if you write the maker

BIGGEST TIME SAVER IN THE STOCKROOM

PRE-MEASURED • CARTONIZED NEW BEDFORD ROPE

No longer is there any need for stockmen to measure off lengths of rope. *New Bedford does it for them at the factory—accurately marks off in red ten foot lengths of rope.*

No longer is there any need to cut bands and remove covers from rope. *New Bedford cartonizes rope—packs it in sturdy, octagonal cartons that can be stacked ceiling high without danger of toppling. All that's necessary is to punch in the perforated circle in the top of the carton and start paying out rope.*

Add these exclusive features to New Bedford quality—New Bedford durability—New Bedford dependability—and you'll see why New Bedford's *always* the buy *all ways.* Cartonized in half and full coils in manila and sisal. *New Bedford costs no more!*

Send for the FREE reference chart and specifications of New Bedford manila, sisal and nylon rope.

NEW BEDFORD CORDAGE CO.
New Bedford, Mass.

BREVITY—Identify by IEN - 5838 if you write the maker

TEMPERATURE RECORDING CONTROLLER

Recording mechanism also operates control switch. Five Ranges of 150, 350, 450, 650 and 1000 deg. F.

You install the sensitive bulb of this recording-controller at the location where you desire temperature control. Then you adjust the instrument to the desired control point. From there on operation is automatic, the switch actuating a solenoid or motor-operated valve, electric-heating unit, or driving motor without further attention. At the same time instrument traces a continuous record on its circular motor-driven or clock-driven chart.

The switch connects direct to the power-operated equipment for loads within its capacity or operates through a relay for any larger load. It is available for operation normally "on," normally "off" or in single pole, double throw arrangement.

PARTLOW
RECORDING-CONTROLLER
(Wall type illustrated)

Wall Type	$100
Flush Type	$115
RECORDER ONLY	
Wall Type	$ 73
Flush Type	$ 88

You can purchase the complete recording-controller assembly for automatic control or we can omit the control switch to provide you with an instrument to record for manual control.

Recording-Controller details in Bulletin 901-A
Recorder details in Bulletin 900-A

THE PARTLOW CORPORATION
4 CAMPION ROAD NEW HARTFORD, N. Y.

BREVITY—Identify by IEN - 5839 if you write the maker

NEW— MODEL S 15 A TWIN TUBE POCKETSCOPE by WATERMAN

A portable twin tube oscilloscope with two independent vertical as well as horizontal channels, featuring high deflection sensitivity (10 mv/in.), linearized repetitive or triggered sweep (½ CPS. to 50KC), non-frequency discriminating attenuators and gain controls.

A new concept in multiple trace oscilloscopy made possible by the Waterman developed RAYONIC rectangular Cathode Ray tube, providing for the first time, optional screen characteristics in each channel (P1, P2, P7, P11), small size (12" x 6" x 7"), light weight (16¼ lbs.), low initial and replacement cost.

WATERMAN PRODUCTS CO., INC. — WATERMAN PRODUCTS

Waterman Products Include . . .

S-10-B GENERAL POCKETSCOPE | S-14-A HIGH GAIN POCKETSCOPE
S-11-A INDUSTRIAL POCKETSCOPE | S-14-B WIDE BAND POCKETSCOPE
Also, RAKSCOPES, Linear Amplifiers, RAYONIC tubes and other equipment.

BREVITY—Identify by IEN - 5840 if you write the maker

MODERN PROBLEMS get modern answers with DUREZ

MOLD COSTS SAVED on "ambidextrous" iron

● In order to embody special sales and user advantages, this iron was planned for molding in 2 component halves. Custom molder used ingenuity, produced body of handle as a single molding of Durez and saved almost 50% on expected mold costs. Reversible cord-retainer insert of same Durez general-purpose phenolic adapts iron quickly for right or left hand operation. An under-cutting profile fixture for flash removal eliminated costly hand cleaning.

IMPROVED DESIGN ENDS NEED FOR JIGS

"Before and after" views show how a leading producer put more sales appeal in this sprayer for farm, shop, and household use. Use of Durez plastics in the new model not only permitted maximum freedom in design, but also eliminated the need for assembly jigs used with former model. The self-insulating property of Durez and its easy cleanability are important in applications of this type.

FOR YOUR JOB, Durez phenolics offer mechanical, electrical, and chemical properties in more than 300 combinations developed to suit widely varying requirements. Your Durez field technician is always available for consultation, and can help you and your molder get the best results for your money. To keep informed on industry's use of phenolics, write (on your letterhead please) for our monthly "Durez Plastics News." Durez Plastics & Chemicals, Inc., 1706 Walck Road, N. Tonawanda, N.Y.

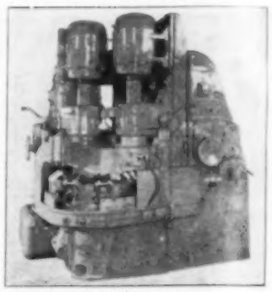
DUREZ *Phenolic Plastics that fit the job*

PHENOLIC RESINS — MOLDING COMPOUNDS — INDUSTRIAL RESINS — PROTECTIVE COATING RESINS

BREVITY—Identify by IEN - 5842 if you write the maker

GRINDING . . Rotary surface machine specially tooled to hold the work

Source: MATTISON MACHINE WORKS
543-47 Blackhawk Park Ave., Rockford, Ill.



No. 24A2 is a new special assembly of the company's Hanchett type of rotary surface-grinding machine to finish the covers of automobile oil-pump bodies. The work pieces are held in automatic clamping fixtures to be carried through the grinding cycle. Automatic sizers check the work as it proceeds and keep the individual pieces within specified tolerances without requiring attention on the part of the operator. A safety device stops the table in case the operator does not locate the work properly in each holding fixture.

BREVITY—Identify by IEN - 5843 if you write the maker

SEALING . . Compound washer flows into open spaces upon tightening

Source: PRESSTITE ENGINEERING CO.
3911 Chouteau Ave., St. Louis 10, Mo.

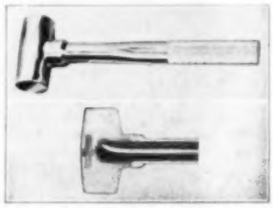
Seals openings on applying pressure

Sealing compound employed in the body of this new washer is faced with paper and is supplied in formed units. Diameters range from ⅛ to 7/16 in. inside by ½ to ⅞ in. outside. Two thicknesses are 1/16 and ⅛ inch. When the washer is applied on a bolt under a nut and the nut is tightened the compound material flows into and fills open cracks and recesses to make a leak-tight connection. Special units are available in sealing materials that are resistant to attack by gasoline and oils in addition to the water-sealing material.

BREVITY—Identify by IEN - 5844 if you write the maker

HAMMER . . Has copper head on tubular steel handle, ½ to 15 lb.

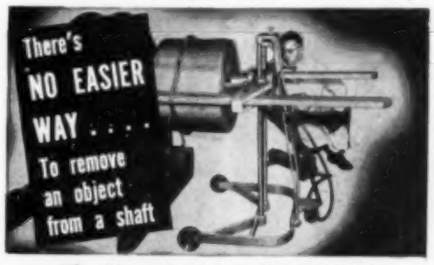
Source: UNIVERTICAL MACHINE CO.
107-11 W. Pleasant Ave., Detroit 18, Mich.



Permanent assembly that cannot come loose in service is featured in the cast construction between the copper head and steel-tube handle of this new hammer. It has been designed to strike a hard blow without injuring a finished surface. Safe-T-Hammer is the designation. The steel handle is knurled to provide a good grip. The line includes 13 sizes in weights from ½ to 15 lb., all in similar construction.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5845 if you write the maker



The New, Improved Hydraulic

PULLEY PULLER

Enables one man to remove a pulley, gear, pinion, or other object from a shaft in minutes! No crow bars, sledges, or blow torches. No damage. Puller is adjustable, easily moved, rugged. Hundreds now in use in industry.

5-ton size **$62.50** *
20-ton size **$290.00** *
50-ton size **$655.00**
(F.O.B. Factory)

Write for complete information — Catalog A

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

BREVITY—Identify by IEN - 5846 if you write the maker

Tell Us Your Production Problems . . . We'll Help You Solve Them

"LOGAN" HYDRAULIC CYLINDERS

SAVE TIME · EFFORT · MOTION Here's fast-acting, positive controlled power for all types of industrial applications.

LOGAN 750 SERIES

ROTATING TYPE — Seven standard sizes from 5" to 14" diameter bore. Larger sizes special to order. Maximum operating pressure 500 p.s.i.

NON-ROTATING TYPE — Eight standard sizes from 2" to 8" diameter bore. Larger sizes special. Maximum operating pressure 750 p.s.i.

LOGAN ROTOCAST® SERIES

7 STANDARD MOUNTINGS

Sizes from 2" to 8" bore; any length stroke up to 8 feet. Other bores and lengths are special. Four piston rod end types. Operating pressures to 1500 p.s.i.

Logan Manufactures 6,975 Standard Cataloged Items

Free Catalog On Request

AIR CONTROL VALVES — CATALOG 100-A
AIR CHUCKS — CATALOG 70-1
AIR CYLINDERS — CATALOG 100-1
AIR and HYDRAULIC PRESSES — CATALOG 51
COLLET GRIP TUBE FITTINGS — CATALOG 44
HYDRAULIC CONTROL VALVES — CATALOG 200-A
HYDRAULIC CYLINDERS — CATALOG 200-D; ALSO 80-2
HYDRAULIC POWER UNITS — CATALOG 200-1
SURE-FLOW COOLANT PUMPS — CATALOG 62

Let Logan Engineers help you design your Air and Hydraulic Circuits.

Logan Air and Hydraulic Equipment — SAVES

LOGANSPORT MACHINE CO., INC. 817 Center Ave. Logansport, Ind.

FLUID POWER SPECIALISTS SINCE 1916

BREVITY—Identify by IEN - 5847 if you write the maker

EMERSON ELECTRIC

AIR CIRCULATORS

Take the Simmer Out of Summer

To move mountains of air quietly, for years to come . . . to step up worker efficiency by reducing hot weather fatigue choose dependable Emerson-Electric Air Circulators!

SPECIFICATIONS: Available in 24" and 30" blade sizes. Two-speed capacitor motors have grease-packed ball-bearings that will give 6,000 hours of service without relubrication. Four types of mountings: floor column, counter, ceiling or wall. Write for free Bulletin No. 232.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

BREVITY—Identify by IEN - 5848 if you write the maker

FOR 15,000 KVA INTERRUPTING CAPACITY

★ Rated 2500 volts; 400 amps
3 and 4 poles

CONTACTS are self-wiping, easily accessible. Arcing contacts of special alloy have high thermal absorption, resist wear. Space requirements are small. Every breaker tested at the factory. Operation: Automatic or manual trip. Specify either manual closing (panel or remote control mounting), or solenoid closing (panel or pipe frame mounting).

For complete facts, send for bulletin B6021.

Other A-C breakers in standard ratings up to 230,000 volts and 5,000,000 kva interrupting capacity.

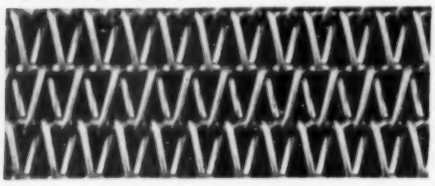
A-3008

Allis-Chalmers
Milwaukee 1, Wis.

ALLIS-CHALMERS A-C

BREVITY—Identify by IEN - 5849 if you write the maker

WISSCO BELTS



Cover a wide utility range

In a wide variety of applications—heat treatment of metals, glass and ceramics, and for processing foods and other products—Wissco Belts have demonstrated their ability to step up production and reduce handling costs.

Wissco Metal Processing Belts operate efficiently and dependably at temperature extremes from sub-zero to 2100°F.—are specially engineered to resist corrosion and abrasion.

Write for illustrated folder describing the adaptability of Wissco Belts and the many money-saving advantages they offer you.

WISSCO METAL PROCESSING BELTS CF&I

A PRODUCT OF WICKWIRE SPENCER STEEL DIVISION OF THE COLORADO FUEL & IRON CORPORATION
Sales Office and Plant—56 Sterling Street, Clinton, Massachusetts
Executive Office—500 Fifth Avenue, New York 18, New York
Sales Offices—Atlanta • Boston • Buffalo • Chicago • Denver • Detroit • New York • Philadelphia
Pacific Coast—The California Wire Cloth Corporation, Oakland 6, California

BREVITY—Identify by IEN - 5850 if you write the maker

BEST FOR EVERY FOLDING CHAIR PURPOSE!

- DURABLE—strong steel frame, reinforced
- SAFE—no tipping, pinching, snagging hazards
- COMFORTABLE—extra-wide, extra-deep seats and backs
- CONVENIENT—fold quietly, quickly, compactly
- RUBBER SHOES—long-life, replaceable
- SEAT STYLES—formed plywood with durable lacquer finish; or vinyl-plastic upholstered

OVER EIGHT MILLION IN USE!

WRITE FOR DESCRIPTIONS AND PRICES **American Seating Company**
Grand Rapids 2, Michigan
Branch Offices and Distributors in Principal Cities

BREVITY—Identify by IEN - 5851 if you write the maker

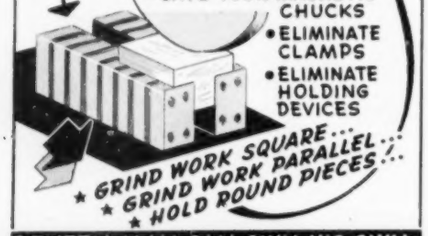
WHEN ACCURACY COUNTS...

Contact SCHERR!

MAGNE-BLOX

SPEED SURFACE GRINDING SET-UPS!

- SAVE YOUR MAGNETIC CHUCKS
- ELIMINATE CLAMPS
- ELIMINATE HOLDING DEVICES



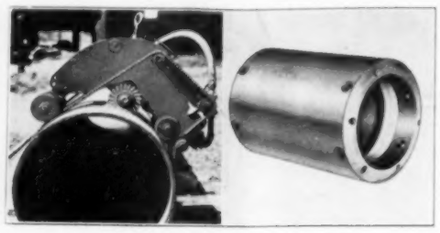
★ GRIND WORK SQUARE...
★ GRIND WORK PARALLEL...
★ HOLD ROUND PIECES...

•EVERY MAN CAN OWN HIS OWN•
WRITE FOR ILLUSTRATED FOLDER
GEORGE SCHERR CO., INC.
COMPLETE LINE OF PRECISION INSTRUMENTS
198-C LAFAYETTE ST., N. Y. 12, N. Y.

BREVITY—Identify by IEN - 5852 if you write the maker

PIPE FITTING . . Steel coupling and pipe line saw for repair purposes

Source: E. H. WACHS CO.
1523-27 N. Dayton St., Chicago 22, Ill.



New coupling to fit over pipe measuring from 2 to 36 in., or larger to specification, is available with an air-driven sawing machine to remove a section of damaged pipe line and quickly replace it with a new section joined and sealed by the coupling.

The saw applies on cast iron or steel pipe measuring 12 to 48 in. in diameter. It weighs 265 pounds. It can be brought to a job and set up by two men in about 15 minutes. Its cutting rate is 2 in. per minute. It is secured to the pipe line by means of its two chains. It rides and feeds forward on these chains while driving its milling type of saw blade.

Near each end of the coupling are radial positioning set screws and toward the center of the coupling from these screws is a recess in which is a neoprene seal ring and two steel thrust rings. Set screws enter the end of the coupling to bear against these rings and drive the neoprene ring into tight sealing position when they are turned down with a socket wrench. The coupling will hold against leakage of gas or liquid pressure. Later, when conditions are safe or convenient, the coupling can be welded to the pipe line and the set screw holes filled by welding to make a permanent connection. The coupling is designed to handle a working pressure of 1,200 lb. prior to welding.

BREVITY—Identify by IEN - 5853 if you write the maker

TESTING . . Tension load cell employs resistance wire strain gages

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.

New Type-P load cells for tension testing has been added to the company's line of Type SR-4 strain gage elements. Four sizes in the line rate 10,000 to 100,000 pounds. Minute elongation of the resistance wire under a tension load results in change in electrical resistance. This supplies the load measurement through suitable associated equipment which the company is prepared to supply. Accuracy is within plus or minus 0.25 per cent of rated capacity. Largest of the units measures 15 in. in length by 3 in. in diameter over the ends.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5854 if you write the maker

Stop CORROSION in your Steam System WITH CORAVOL

When fed to your steam system, **CORAVOL**: (1) *prevents* corrosion in steam and condensate lines, (2) *cleans out* clogging rust deposits resulting from previous corrosion. Thus, **CORAVOL** protects lines, increases the effectiveness of heat transfer surfaces, restores original capacity of lines and the operating efficiency of valves and traps.

CORAVOL is part of a complete technical service which provides special formulas of treatment for:
Boiler feed water . . . hot water supply . . . refrigerating brine . . . cooling and condenser water . . . rapid scale removal . . . coagulation . . . algae control . . . fuel oil supply . . . soot removal.

Write TODAY to Western Chemical Company, 715 Washington Street, Kansas City, Missouri—for complete FREE data about the **CORAVOL** process.

Western Chemical Co. is owner of U. S. Patent No. 2053024 covering the use of volatile amines in steam systems.

WESTERN CHEMICAL CO.
715 WASHINGTON KANSAS CITY, MO.

BREVITY—Identify by IEN - 5855 if you write the maker

The World's Greatest Drill Team!
NO MASONRY OR GRANITE IS TOO TOUGH FOR

Cyclo-twist AND *Thunderbolt*

CARBIDE TIPPED **DRILL BIT** for drilling in MASONRY

CARBIDE TIPPED **HAMMER BIT** for drilling in HARD CONCRETE or GRANITE

Used in any ROTARY DRILL, DRILL PRESS or HAND BRACE

Strong. Accurate. Positively expels dust as it drills . . . no stalling, packing or overheating. Drills holes up to 36" deep at lowest cost per hole. Sizes 3/16" to 1".

Used in any ELECTRIC HAMMER or PNEUMATIC CHIPPING HAMMER

Drills clean, accurate holes at a uniform rate. Minimum of resharpening required. Cuts drilling costs 85% or more; outlasts steel bits 100 to 1. Sizes 3/16" to 1¼".

Buy them at your supply house, or write for complete information
New England CARBIDE TOOL CO., INC.
64 BROOKLINE ST., CAMBRIDGE 39, MASS.

BREVITY—Identify by IEN - 5856 if you write the maker

Accurate temperature reading cuts costs — reduces waste!

USE THE **NEW PYRO** LOW COST
Surface Pyrometer

Gives accurate surface and sub-surface readings under all operating conditions . . . yet costs as little as $47.50 complete! Choice of two models with flexible or rigid extension arm, for use with one or more of 8 types of thermocouples. (One thermocouple included.) Supplied in 4 different temp. ranges (0-400 to 0-1200). Ask for FREE Catalog #180.

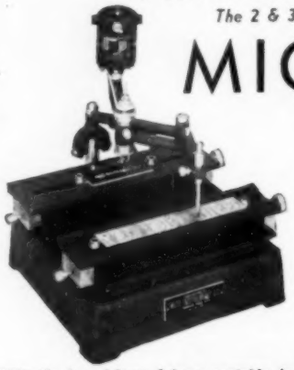
PYRO OPTICAL PYROMETER
TEMPERATURES AT A GLANCE!

Self-contained, complete, weighs only 3½ lbs. Measures temps. from 1400° to highest temps. attainable in industrial plants . . . also records temps. of fast-moving objects, minute spots or smallest streams. Direct-reading, no correction charts needed! Available in 5 ranges. Ask for FREE Catalog #90.

PYROMETER INSTRUMENT COMPANY
Plant and Laboratory
BERGENFIELD 21 • NEW JERSEY

BREVITY—Identify by IEN - 5857 if you write the maker

A *BETTER* ENGRAVER At *LOWER* COST
The 2 & 3-Dimensional
MICO



Fills the long-felt need for a portable, inexpensive and dependably accurate machine for making small dies, molds, templates, etc. Extremely simple to operate.

Note These Superior Features
- Engraves 2 or 3 dimensions.
- Pantograph permits 4 reduction ratios.
- Micrometric depth control graduated in thousandths of an inch.
- Entire spindle assembly removable to facilitate cutter grinding.
- Rugged cast iron construction with exclusive adjustments for insuring quick, accurate setting.

Send for complete specifications and attractive price list

MICO INSTRUMENT COMPANY
81 TROWBRIDGE STREET, CAMBRIDGE, MASS.

BREVITY—Identify by IEN - 5858 if you write the maker

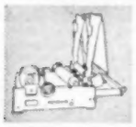
Better Coating at Lower Cost with

POTDEVIN

Coating Machines

Manufacturers in every field have been depending on their "POTDEVINS" to cut down operating costs.

Illustrated is Model 2R for applying any type coating to any kind of material.



There is a POTDEVIN coating machine for every job . . . from a 6-inch hand-operated model for small work to a giant 46-inch semi-automatic for mass production. Such coating materials as hot or cold glues, latex, resins, paint, varnish and lacquer, as well as many of the new type coating materials, work with equal ease . . . and the amount of coating is accurately controlled. Write POTDEVIN today for full particulars and discover how easy your coating problem can be solved with a "POTDEVIN" machine. And you don't need skilled help to operate a POTDEVIN.

POTDEVIN MACHINE CO.
1213 38th St., Brooklyn 18, N. Y.

Designers and manufacturers since 1893 of equipment for Bag Making, Printing, Coating, Gluing and Labeling.

BREVITY—Identify by IEN - 5859 if you write the maker

GALS. PER MINUTE
FEET PER HOUR
% SHRINKAGE

All measured electrically with

WESTON TACHOMETERS

Precise indications from ONE rotating shaft

Simply mount the compact a-c or d-c Weston generator at the rotating shaft or part, and wire to one or more indicators placed wherever desired. Indicators can be calibrated for any function of R.P.M. Speed changes indicated instantly and smoothly without pointer oscillation.

Speed-ratio from TWO rotating shafts

New WESTON Tachometer indicates the speed-ratio of 2 rotating shafts or parts. Indicates directly the speed-ratio of rolls, the % stretch or shrinkage of textiles, elongation of metals, etc. Remote and duplicate indications possible, with scale marked in desired units.

New SLOW-SPEED Electrical Tachometer

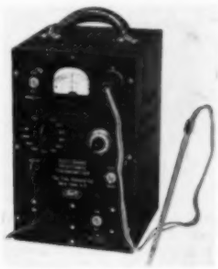
Expanded scale accurately indicates speeds as low as 1 R.P.M. without pointer oscillation. No intermediate gearing employed. Complete data from your local WESTON representative, or by writing Weston Electrical Instrument Corporation, 603 Frelinghuysen Avenue, Newark 5, New Jersey, manufacturers of Weston and TAGliabue instruments.

WESTON *Instruments*

BREVITY—Identify by IEN - 5861 if you write the maker

THERMOMETER . . Electronic unit actuated by resistance coil in bulb

Source: EMIL GREINER CO.
18-28 N. Moore St., Dept. I, New York 13, N. Y.



A tungsten coil sealed in pyrex glass or a molybdenum coil in quartz, each with protecting tubes made of stainless steel, is employed to actuate the bridge circuit in this new electronic resistance thermometer. It is available in an overall range between minus 100 and plus 1,100 deg. C. Thirteen intermediate ranges can be selected by turning a pointer knob on the face of the housing.

Accuracy is within .1 deg. C. Sensitivity is within .01 deg. C. Actuating bulbs in stock measure 9 in. in length. They are provided with three leads measuring 3 ft. in length and a cable connector. Operation is on 110-volt, 60-cycle ac.

BREVITY—Identify by IEN - 5862 if you write the maker

GALVANIZING . . Repair solder restores damage in small metal areas

Source: FARRELLOY CO.
1249 N. 26th St., Philadelphia 21, Pa.

Stands 800 hour salt spray test

Melting point is 17 deg. F. higher than that for 50/50 galvanizing in a new repair solder. The material can be applied with a torch or soldering iron in connection with flux the company is prepared to supply. It is shipped in the form of wire at $1.50 per pound. Two available fluxes to use with the material list at $2.50 and $3.50 per gallon.

BREVITY—Identify by IEN - 5863 if you write the maker

TRUCK . . Three wheel hand design, loads to 400 lb., has tripod support

Source: MELOOZ MFG. CO.
4728-32 Avalon Blvd., Los Angeles 11, Calif.

A load can be tilted back into carrying position on this new Defender hand truck with the aid of a foot-operated lever. It comes into carrying position on a caster wheel at the rear so the operator need not support any of the weight. A hand mechanism can be operated to change the balance position for loads of varying shapes, sizes and weights to 600 pounds.

The rear tripod support and the third wheel can be folded out of the way when desired to use the truck as a standard two-wheel unit. Construction is in steel with solid-rubber wheels and double-race ball-bearing caster.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5864 if you write the maker

Your Workers Look to You For *Sure* Eye Protection

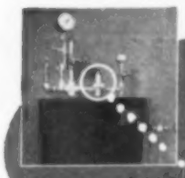
Give Them WATCHEMOKET eye SAVERS

Supply your workers with Eye-Savers — the finest in plastic eye protection! Eye-Saver shatterproof lenses have great impact strength and are optically perfect to give sure eye safety. Workers especially like the light, comfortable fit and good looks of every Eye-Saver goggle. Available from your safety supplier in many different styles to meet all eye hazards. Model 7 (illustrated) has become the standard of industry for heavy duty applications.

FREE! *Send for magazine article giving impartial advice on best uses of plastic eye protection. Eye-Savers catalog also included.*

WATCHEMOKET OPTICAL CO., INC.
DEPT. 8 PROVIDENCE, RHODE ISLAND
Producers & Originators of Practical Plastic Eye Protection

BREVITY—Identify by IEN - 5865 if you write the maker



CASH-ACME *Valves* DEMANDED BY INDUSTRY *Everywhere*

Type "B" Pressure Reducing and Regulating Valve

steam generator manufacturer specifies

CASH-ACME

When the pressure's on, this steam generator manufacturer depends on a CASH-ACME Automatic reducing and regulating Valve for unfailing service. It's the same story in any industry that requires consistent pressure control. CASH-ACME is specified by more and more manufacturers. Write today and find out how a CASH-ACME Automatic Valve can help with the successful operation of your product.

CASH ACME SILENT SENTINEL *Automatic Valves*

A. W. CASH VALVE MANUFACTURING CORP.
6612 E. Wabash Avenue
Decatur, Illinois

BREVITY—Identify by IEN - 5866 if you write the maker

SPENCER VACUUM IN American Cyanamid Plants

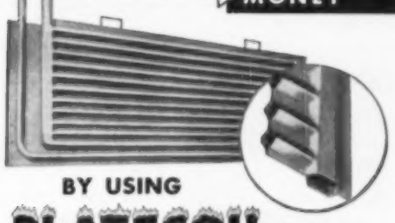
Ten years ago American Cyanamid Company installed a Spencer stationary vacuum cleaning unit to remove excess dusts resulting from the manufacture of plastic powders. Today Spencer stationary units with a total of 135 horsepower are used almost continuously to remove excess powder from floors, machines, walls and pipes. The material is collected by the barrel and sold for fertilizer. Spencer portables are used all over this plant in locations not reached by the stationary vacuum lines.

Spencer Vacuum has more than 100 uses in industry. It reclaims metals, conveys materials, cleans machinery, and goods in process. It handles hot materials, liquids, sand, rice, injurious dusts and gases and invariably pays for itself in a few months. Ask for Bulletin No. 144.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
439-F

BREVITY—Identify by IEN - 5867 if you write the maker

YOU SAVE ▶ STEEL ▶ MANHOURS ▶ MONEY



BY USING

PLATECOIL FOR TANK HEATING AND COOLING

YOU SAVE CRITICAL STEEL because "Platecoils" require less than ½ the steel used in pipe coils of the same surface area. A 22" x 119" Platecoil weighs 95 lbs. against 239 lbs. for an equivalent 2" pipe coil. 144 lbs. steel saved. YOU SAVE CRITICAL MANHOURS because "Platecoils" are easily installed, cleaned or replaced in minutes . . . No down-time . . . No tank dumping. Many manhours saved.
YOU SAVE MONEY because "Platecoils" cost up to 50% less in initial cost and require less maintenance. Investigate "Platecoils" today.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL
KOLD-HOLD MFG. CO
LANSING 4, MICHIGAN

BREVITY—Identify by IEN - 5868 if you write the maker

NEW FRACTIONAL H.P. STARTER HAS ALL THE FEATURES!

- Quick-make, quick-break contact mechanism
- Single or double pole construction
- Double-break contacts of fine silver
- Modern styling
- Straight-thru wiring with convenient terminals—generous wire space
- Dependable melting alloy type overload protection—trip-free
- Definite trip indication
- Interchangeable overload relay units accessible from the front
- Open type starter can be used with standard switch box and flushplate

RATINGS: *Double pole: 1 H.P., 115—230 volts A.C. or D.C. Single pole: 1 H.P., 115—230 volts A.C. and ½ H.P., 115—230 volts D.C.*

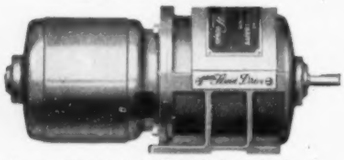
Write for Bulletin 2510A. Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wisconsin.
ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

BREVITY—Identify by IEN - 5869 if you write the maker

Free Trial for Gýrol Fluid Drives

ACT NOW



Learn about Gýrol Fluid Drives *firsthand.*

We invite you to try an American Blower Type TM Gýrol Fluid Drive in actual production on your own machine. We'll arrange it at no cost, no obligation to you.

You'll see how these remarkable units save power, provide smooth acceleration and overload protection, and absorb shocks.

To take advantage of this offer, write us direct. Describe the machine on which you want to use the TM unit and state horsepower of present motor. Then, we'll contact you to arrange installation and trial period.

AMERICAN BLOWER
American Blower Corporation, Detroit 32, Michigan
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER
CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • RUSS HEATER • TONAWANDA IRON

BREVITY—Identify by IEN - 5870 if you write the maker

SAVE MONEY ON WIRE ROPE OR CHAIN FITTINGS

When looking for a fitting, you can save both time and money by checking the Laughlin Data Book first. Many fittings you've had made up as "specials" you'll probably find as Laughlin standard items.

FREE! This valuable catalog gives you information on wire rope and chain fittings plus helpful tables and other data. It's yours for the asking.

LAUGHLIN
THE MOST COMPLETE LINE OF DROP FORGED WIRE ROPE AND CHAIN FITTINGS

MAIL THIS TODAY ...no cost or obligation

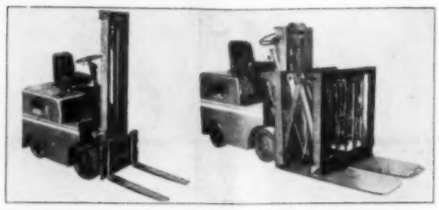
THE THOMAS LAUGHLIN CO.
16 Fore St., Portland 6, Maine

Please send Catalog-Data Book #150 to:
Name ..... Position .....
Company .....
Street .....
City ..... Zone ... State .....

BREVITY—Identify by IEN - 5871 if you write the maker

TRUCK . . Power lift fork design, one ton, takes push-pull attachment

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.



The operator must be in seated position on this new 1-ton Clipper battery-powered electric fork lift truck in order to release the controls and free a parking brake on the shaft of the driving motor. He controls travel by placing his operating lever in "low" position. Then he operates an accelerator for higher speeds in either forward or reverse. A separate motor drives the hydraulic pump for lift movement.

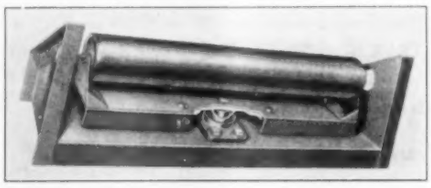
The truck measures about 64 in. in overall length without the forks by 35 in. in width. It rides on a 37-in. wheel base, has a turning radius of 61½ in. for operation in 57-in. intersecting aisles. Overall height is 83 in. when the forks are down. It is 143 in. with the forks at maximum 125-in. height.

In addition to the new 1-ton size the company announces availability of its Pul-Pac and Pusher device, previously described IEN-1840-51. With this device in position on the Clipper truck in place of the regular lift fork, it is possible to handle unit loads assembled on relatively inexpensive carrier sheets rather than conventional pallets.

BREVITY—Identify by IEN - 5872 if you write the maker

CONVEYING . . Belt return idler for aligning action to center the belt

Source: CHAIN BELT CO.
1675 W. Bruce St., Milwaukee 4, Wis.



Tilting at 45 deg. in the direction of return belt travel and center swivel mounting of the frame supporting the return idler on a roller bearing turntable are combined in this new type No. 33RA return idler to hold a conveyor belt on its center line. The action is equally effective in belts that run along horizontal, incline or decline directions and is not affected by build-up of material on the roll.

Intended application is for one unit to be placed close to a head pulley for immediate centering action on the return run, one unit close to the tail pulley to center the belt for loading. Additional units are placed along the return run as required for a given installation. Pressure-type lubricant fittings are provided. The roll is available 4, 5 and 6 in. in diameter and also in a 5½-in. rubber-covered spiral design. Roll length can be specified to meet installation requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5873 if you write the maker

"YANKEE" ANGLE VISES

● Jig-type SET-UPS in jig time! One set-up for a series of operations, bench or machine. Position the work and set for angle. Securely held. Angle adjustment does not interfere with full capacity of jaw opening. Full 90° scale. Hardened face plates. V-block for holding round stock. Two sizes, 2" and 2¾" jaw widths. Same sizes also available with quick-release swivel base for use on bench. Economical jigs—big savings in tooling for small work.

Order from your industrial distributor. Write for Vise Folder and "Yankee" Tool Book.

"YANKEE" TOOLS NOW PART OF STANLEY
THE TOOL BOX OF THE WORLD
NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

BREVITY—Identify by IEN - 5874 if you write the maker

it rolls...it folds in any direction

Requires no other outside wrapping for the flat surface is high quality Kraft paper. Use any kind of fastener . . . pressure-sealing tape, twine, gummed tape, staples, stitcher, or steel strapping. Available in rolls up to 72" wide, 250 feet long or in sheets, cut to order. Four weights: 35, 51, 70 and 100 lb. basis. (Approved under Army and Navy Specs.)

Write Dept. 591-F for samples and literature.

Shelton Manufacturing Co., Inc.
591 Ferry St., Newark 5, N. J.
Corrugated Paper Products Since 1919

BREVITY—Identify by IEN - 5875 if you write the maker

CALCULAGRAPH

figures elapsed time accurately

Reliable job time records are essential for compiling correct cost data, estimating reorders and checking on production efficiency. One sure way to secure accurate to the minute, dependable time costs is to use Calculagraph automatically-figured elapsed time records. Calculagraph gives you total elapsed time, starting and finishing time and date on a permanent, printed reference card. Eliminate losses due to inaccurate job time calculations by using Calculagraph to time your operations.

Write for full information today, to Dept. B.

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

BREVITY—Identify by IEN - 5877 if you write the maker

★ For Direct Heating of Liquids and Vapors

★ Indirect Heating Systems Using Circulating Medium

Struthers Wells

FIRED HEATERS

for the Process Industries

Struthers Wells direct fired heaters are available in sizes from 100,000 to 25,000,000 BTU per hour, for heating gasoline, oils or asphalts, superheating steam or gas, and for indirect heating systems.

Struthers Wells indirect heating systems give economical—trouble-free operation at temperatures to 750° F., or above.

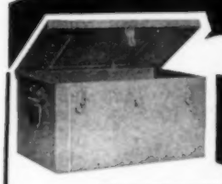
If your process requires temperatures above those of existing steam supply—if steam is not available, or if the process can be improved by higher temperatures, investigate this simple and economical equipment. • Write on your letterhead for Bulletin B-45, describing our complete line of equipment for high temperature process heating.

Struthers Wells

STRUTHERS WELLS CORPORATION
Warren, Pa.
PLANTS AT WARREN, PA. • TITUSVILLE, PA.
Offices in Principal Cities

BREVITY—Identify by IEN - 5878 if you write the maker

GOV'T. CONTRACTORS



SPARE PARTS BOXES

CONFORMING TO
Federal Specifications
Military Specifications
Air Force—Navy
Aeronautical Specifications
Navy Department Specifications

WRITE FOR FURTHER INFORMATION

Muckle MANUFACTURING CO.
OWATONNA, 33 MINN.

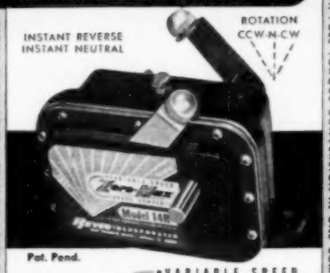
BREVITY—Identify by IEN - 5879 if you write the maker

ZERO RPM TO ¼ MOTOR SPEED • POSITIVE SPEED CONTROL WITH FULL TORQUE CONVERSION IN ONE COMPACT UNIT • UNLIMITED USES

Variable Speed Transmission with Instant Reverse!

INSTANT REVERSE
INSTANT NEUTRAL

ROTATION CCW-N-CW



Pat. Pend.

MODEL 14R
10 in. lbs.

• VARIABLE SPEED Zero-Max TORQUE CONVERTER—

Full Torque Conversion and Variable Speed with INSTANT REVERSE. Full power (10 in. lbs.), full speed range (0 to ¼ input speed) in BOTH directions with instant reverse. Positive, infinitely variable speed control. Neutral position leaves output shaft free. Reverse control easily actuated by cam, solenoid, etc.

• INFINITELY VARIABLE SPEED, FORWARD OR REVERSE FROM ZERO

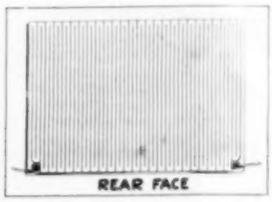
For complete details write Dept. IEN

REVCO FRANKLIN & NICOLLET AVE. MINNEAPOLIS 3, MINN

BREVITY—Identify by IEN - 5880 if you write the maker

HEATING . . Radiant glass panel operates electrically to 300 deg. F.

Source: BLUE RIDGE GLASS CORP.
51 Ridge Ave., Kingsport, Tenn.



Ra-Grid trade names a new glass radiant-heating panel in which an aluminum grid measuring .001 in. in thickness is fused to the back of a tempered glass plate ⅛ in. in thickness. The grid is protected by a coat of heat-resisting enamel. Wiring connects at two terminals from a 110-volt circuit or, in certain cases, to a 220-volt circuit. Smallest panel in the standard line measures 6 by 14 in. and rates 250 watts. The largest measures 16 by 24 in. and rates 1,000 watts.

Temperature control is by a thermostat or by matching input against radiation. Then no thermostat is required. Two of the units can be operated in series. Maximum loading is 3 watts per sq. in. with the plate in free air at room temperature. The panel applies in space heating and in a variety of processing operations where radiant heat can serve a particular purpose. It was advertised previously IEN-4010-51.

BREVITY—Identify by IEN - 5881 if you write the maker

SEALING . . Miniature plastic cap snaps over standard grease fitting

Source: WILSON PLASTICS INC.
1529-33 Milan Road, Sandusky, Ohio

Sample cap on request

Lubseal trade names new molded-plastic cap with a button-shaped head measuring about ½ in. in diameter and a hollow shank to press into place over a standard grease fitting. The seal protects fittings on a machine while the machine is being painted. It "flags" grease fittings by its bright red color so they stand out for identification. It keeps dust and foreign matter from the bearings.

BREVITY—Identify by IEN - 5882 if you write the maker

WRENCH . . Extension unit to drive hexagon socket head screws

Source: L. C. DOMACK
1147-51 Milwaukee Ave., Chicago 22, Ill.

A square socket with knurled exterior is integral with a hexagon shank in this new patented wrench. Three sizes have ¼, ⅜ and ½-in. square drive openings. The ¼-in. unit is available with a hexagon shank measuring $\frac{7}{16}$ in. in the smallest size, $\frac{9}{16}$ in. in the largest. Overall length is 2¼ to 3 inches. List price is 75 cents to 95 cents.

The ½-in. unit has hexagon size range from $\frac{9}{16}$ to $\frac{5}{16}$ in., overall length from $4\frac{1}{16}$ to 4 ⅞ inches. It lists at $1.50 to $1.90.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5883 if you write the maker

A few turns will do it!...

BUCKINGHAM... Thread RESTORERS

Just slip on, tighten and turn. That's all there is to it—it's that simple . . . and quick . . . And what *results!*

Flats and nicks are eliminated—even heavily rusted and corroded threads are cleaned pronto. No more drilling or hack sawing to restore damaged male threads—when you have a Buckingham Thread Cleaner handy.

Follows the pitch of any right or left hand thread—sizes range from ¼" to 4" root diameter. No need to insert or change dies. Cutting jaws adjust easily to proper size on the threads. See your nearest Buckingham dealer—or write.

6103 —	¼" to 1" root diam.	$ 6.50
6203*—	¼" to 1" root diam.	8.50
6104 —	1" to 2⅝" root diam.	12.00
6136 —	2" to 4" root diam.	27.50
6204*—	1" to 2⅝" root diam.	21.00

*Short swing type.

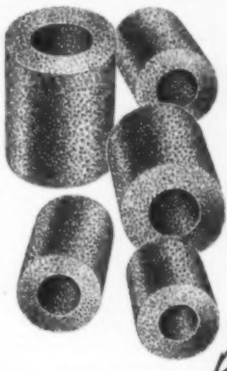
BUCKINGHAM MANUFACTURING CO., INC.
49-51 Travis Street Binghamton, N. Y.

BREVITY—Identify by IEN - 5884 if you write the maker

CONTROL POWER BETTER

ROCKFORD CLUTCHES

BREVITY—Identify by IEN - 5885 if you write the maker



CHICAGO Internal Grinding WHEELS

Rapid Delivery

MANUFACTURED TO ORDER

Chicago Internal Grinding Wheels produce better finishes with longer wheel life and cutting action. They're your best buy—"tailor made" to your specifications and speedily delivered.

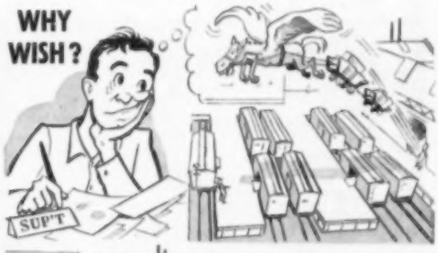
Advanced production methods assure you perfectly balanced Internal Wheels to meet rigid finishing requirements. Faster delivery . . . with overnight service for special jobs.

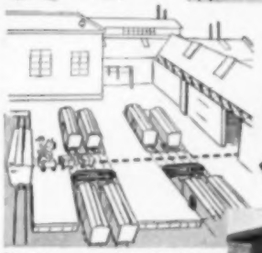
WRITE TODAY for full details on all Chicago Wheel products . . . and *free* sample Chicago Internal Grinding Wheel.

CHICAGO WHEEL & MFG. CO.
Dept. N, 1101 West Monroe St.
Chicago 7, Illinois

BREVITY—Identify by IEN - 5886 if you write the maker

WHY WISH?





Be Practical—Use a WHITING CROSS-OVER BRIDGE

You can save money—you can save time, and you can speed up materials movement from dock-to-dock with Whiting Cross-Over Bridges. Designed in three general types (Overhead-Rise—Ground-Level—and Roll-Away).

Write for Bulletin MS-C-400 and learn how these practical Cross-Over Bridges fit your materials-movement requirements. The Whiting Corporation, Harvey, Illinois.

BREVITY—Identify by IEN - 5887 if you write the maker

SET RIVETS *faster* with T-J RIVITORS CUT COSTS!

Speed up assembly . . . automatically feed and set solid rivets. Electrically powered Rivitor for 1/16" to 1/4" diam. solid steel rivets up to 7/8" long; air-powered Rivitor for aluminum alloy rivets up to 1/4" diam. or steel rivets up to 1/8" diam., up to 3/4" long. Throat depths, 8" to 36". Write for bulletins 646 & 847. The Tomkins-Johnson Co., Jackson, Mich.

T-J RIVITOR used for automotive clutch plate assembly. Saves time and labor doing a four-fold job—assembling, setting, inspecting and ejecting.

TWIN RIVITOR used for riveting flat steel springs to brackets for automobile horns.

33 YEARS EXPERIENCE

T-J TOMKINS-JOHNSON RIVITORS

BREVITY—Identify by IEN - 5888 if you write the maker

UNIVERSAL EXPANDED METAL FLOOR TRUCKS

MODEL 4-A Length 60", width 30", height 30".

- Greater Economy
- Greater Utility

Literature Mailed Promptly Upon Request

MODEL 4-B Length 60", width 30", height 48".

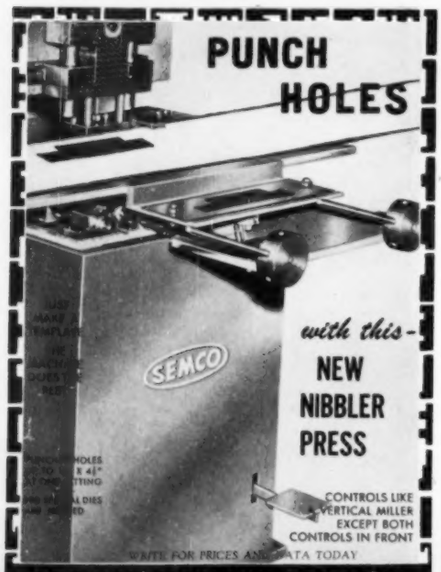
Durable, highly maneuverable, economically priced. Designed to meet a wide range of material handling jobs. Rigid angle iron frame. Equipped with four 4" ball-bearing fiber casters—swivel casters centered at front and rear; rigid casters centered on each side. Model 4-B has hinged drop panel on side equipped with positive safety latches.

- Also other types of expanded metal containers in sizes and quantites to customer's specifications.

INDUSTRIAL ENGINEERING & MFG. CO., INC. SHIMFIELD, INDIANA, U.S.A.

BREVITY—Identify by IEN - 5889 if you write the maker

PUNCH HOLES



with this - NEW NIBBLER PRESS

CONTROLS LIKE VERTICAL MILLER EXCEPT BOTH CONTROLS IN FRONT

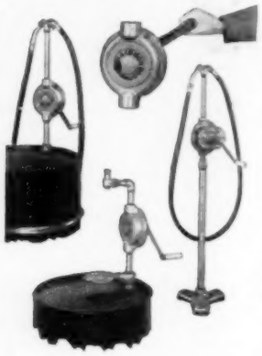
WRITE FOR PRICES AND DATA TODAY

SERVICE MACHINE COMPANY INCORPORATED 200 MILLER STREET, ELIZABETH 4, NEW JERSEY

BREVITY—Identify by IEN - 5890 if you write the maker

PUMP . . Vane type rotary, five series, four ratings, 7 to 28 gpm.

Source: BLACKMER PUMP CO. 1809 Century Ave., Grand Rapids 9, Mich.



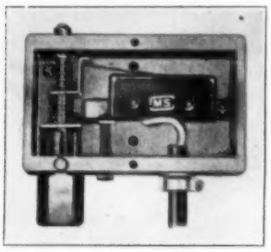
Three assemblies with direct hand drive and two with geared hand drive are included in a new line of hand-operated rotary vane-type pumps for light and heavy liquids. Four of the five are swinging-vane construction with cambered bodies to deliver a non-pulsating flow. The fifth is a sliding-vane design. In all five the vanes are self-adjusting for wear.

Each of the series is available as the pump only, as an assembly with suction and delivery pipes for drums and skid tanks, as an assembly to include a return drip pan for barrel mounting, with a refueling hose and nozzle, with a floor stand for underground tank application, with brackets for wall or foot mounting, with a locking device and with interchange of accessories for most of these combinations. Designations are Series 210, 404, 414, 828 and 807 for the assemblies in the order named.

BREVITY—Identify by IEN - 5891 if you write the maker

SWITCH . . Time delay unit actuates circuit to solenoid valve

Source: PNEU-TROL DEVICES INC. 1434-38 N. Keating Ave., Chicago 51, Ill.



Machine dwell prior to return movement, as in operations involving spinning, facing, blind drilling, threading, or in rubber and plastic curing, coating, dipping, quenching, can be set in an interval between ¼ and 10 sec. by installing this new switch in the circuit to a solenoid valve which, in turn, powers the machine movements. Its housing measures 3⅞ by 1⅜ by 2⅜ inches. Rating is 10-amp. on 110-volt ac. for the single-pole double-throw unit.

Installation is on a machine so the switch button is depressed a little before the machine movement reaches the end of its travel and contacts the normal mechanical stop. Depressing the plunger compresses a spring that works against a piston in an oil-filled dash pot. Oil-controlled movement of this piston permits a lever to operate a sensitive switch enclosed in the housing. Switch position is altered by an adjusting screw in the bottom of the housing to set a desired interval within the overall range.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5892 if you write the maker

the new APCO TORQUE WRENCH "CLICKS"

No. PF 50 0-600 inch lbs. Length 15" Weight 1½ lbs.

. . . warns worker when preset tension is reached!

Apco Tension Drivers, available in four standard sizes. 0-25, 0-6, 0-12, 0-80 inch lbs. Interchangeable heads on two largest sizes.

Simplifies mechanical operations and eliminates "guesswork" on assembly and maintenance work — particularly in hard-to-get-places—wherever nuts, bolts, and studs require specific tensioning. Made with dial for accurate preset tension, this wrench makes a distinctly audible "click" when preset torque is reached. Unaffected by temperature change or jarring, guaranteed accurate. Apco Torque Tools—made of heat-treated nickel steel—are available in both visible and preset dial models—in sizes from zero to 280 inch grams., up to 2,000 ft.-lbs.

SEND FOR DESCRIPTIVE FOLDER TODAY!

APCO MOSSBERG CO. 161 LAMB ST., ATTLEBORO, MASS.

BREVITY—Identify by IEN - 5893 if you write the maker

No More Kickbacks—that's why I Use the AMF LOAD-BINDER

Check these features

Ratchet-type operation
No kickbacks
One man operation
Binds load easily
Small, compact

Write today for more information

American FORGE AND MANUFACTURING CO. 812 Shore Avenue • Pittsburgh 12, Pa.

BREVITY—Identify by IEN - 5894 if you write the maker

NEW... *Extremely sensitive* PRESSURE & VACUUM *Switches*

TYPE SB

The new Type SB pressure and vacuum switches are for use in applications in which close on-off differentials and absolutely consistent maintenance of cut-in and cut-out settings are essential in the control of pressure or vacuum. Available are two pressure models and two vacuum models. The Pressure Switches have adjustable ranges from 0-15 psi and adjustable on-off differential from .1" wc-10" wc. They may be furnished as calibrated, micrometer type or uncalibrated for screw driver adjustment.

Electrical ratings at 125/250 V AC between 1200 watts and pilot duty depending on differential. The Vacuum Switches offer adjustable ranges from 30"-0" hg vac with adjustable on-off differential from .1" wc-10" wc. Furnished as calibrated micrometer type or uncalibrated with screw driver adjustment. Electrical ratings of both models 1200 watts at 125/250 V AC.

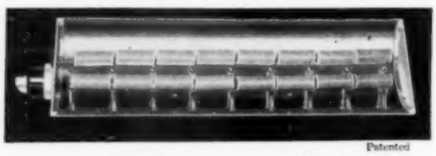
Special models available for requirements not included in the specifications above.

Write for new bulletin 4926 P giving complete details today.

UNITED ELECTRIC CONTROLS COMPANY 80 School Street Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

BREVITY—Identify by IEN - 5895 if you write the maker



Patented

HIGH TEMPERATURE, RADIANT HEAT FOR PROCESSING

Doyle Infrared Heating and Drying Units provide, at small equipment cost, the high temperature, concentrated, radiant heat often required for surface drying, treating and conditioning coatings on paper, fibre and textiles. Especially effective with synthetic resins which react favorably under a high flash of heat, also in impregnating processes using latices or impregnating compounds.

Many industries use Doyle Units in continuous processing of sheet and roll materials, also as accessories to drying drums and ovens and for similar purposes.

Each Doyle Unit is a complete, standard assembly including scientifically-designed reflector and control switch. Manufactured in a wide range of sizes for convenient installation over conveyors or as an integral part of other processing equipment. For technical specifications and prices write to:

THE J. E. Doyle COMPANY 1228 WEST 6TH STREET • CLEVELAND 13, OHIO

BREVITY—Identify by IEN - 5896 if you write the maker

Moving or Storing is Rapid, Convenient and Inexpensive with

IRONBOUND SEMI-LIVE SKID PLATFORMS

Ruggedly built with capacities up to 2500 lbs. These units are quickly made mobile with the use of low cost lift jacks . . . One of the methods that Ironbound engineers use to increase production and conserve space at low cost.

SEMI-LIVE SKID WITH BOX TOP

. . . permanently attached or removable. Also available with many other superstructures to "Short-Haul" your products thru production or into storage. Useful in hundreds of spots in every plant.

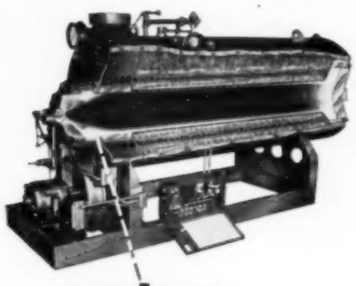
THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS

Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

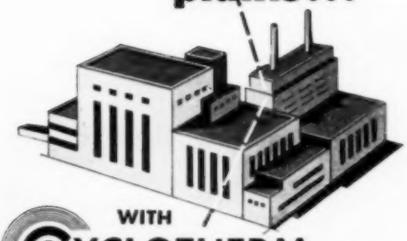
IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

BREVITY—Identify by IEN - 5897 if you write the maker



modern power for modern plants...



WITH

CYCLOTHERM steam generators

The Cyclonic Combustion method of steam generation assures a GUARANTEED 80% efficiency. In the modern American factory efficiency is the keynote of profit.

Write for complete information on the CYCLOTHERM cyclonic principle. You'll receive proof why this truly amazing generator is recognized by American industry as being years ahead in steam generation.

Boilers are designed for oil or gas operations from 18 thru 500 h.p., 15 to 200 lbs. operating pressure.

CYCLOTHERM CORP.
Oswego, N. Y.

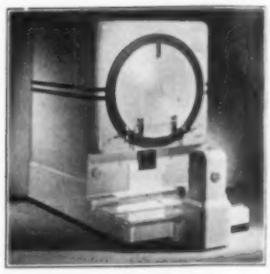
Your phone book will give you the address of your local Cyclotherm office or write Dept. J

Years Ahead in Steam Generation

BREVITY—Identify by IEN - 5899 if you write the maker

GAGE . . Optical comparator projects profile and work images

Source: EASTMAN KODAK CO.
341-45 State St., Rochester 4, N. Y.



Contour projector, Model 3, is a new "stripped-down" assembly of the Model-2 comparator, previously described IEN-3194-50, to provide a unit suited for production use. The optical equipment sets up an unvarying 8 in. of space between the lens and the object for all magnifications to 100X. This permits use of high-production staging fixtures. It locates objects to be projected, without care on the worker's part, for comparison with a tolerance chart that can be accurately positioned over the projection screen.

Projector body, work table and lamp house can be separated for attachment to large fixtures for optical gaging of very large work. A lighting accessory permits illumination to be sent from the same lens that picks up the image so surfaces and deep recesses can be examined even though they cannot be shadow projected. Surface or shadow projection is possible for objects facing toward the lamp, up, down, to the left or to the right, for flexibility in application.

BREVITY—Identify by IEN - 5900 if you write the maker

PLATING . . Self-contained machine for chromium plating, 45 gallon tank

Source: CRO-PLATE CO.
800 Windsor St., Hartford 5, Conn.

Tool and product plating can be handled in a small shop, in a pilot plant, a research laboratory or can be performed on special work in a large plant by this new self-contained Cro-Plater machine. It occupies a floor space measuring 4 by 4 ft. and encloses a tank measuring 24 by 18 by 30 inches. Overall height is 6 ft., weight is 2,150 lbs.

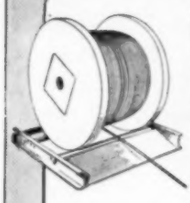
The machine operates on 220-volt 3-phase 60-cycle ac. with 50-amp. input. It transforms a part of the input to 110 volts for lighting and timing. The ac. input is rectified to provide dc. power to 500 amp. at a maximum of 12 volts. This is accomplished by a rectifier enclosed in the base and forced-air cooled by a motor-driven blower which also exhausts fumes from the plating tank.

Tank heat is supplied by two strip-type electric elements. A thermostat maintains desired temperature. Plating controls, the necessary circuit switches, meters and timer, are panel assembled beneath a fluorescent lamp.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5901 if you write the maker

Simple as A B C



Handle heavy reels easily and safely; remove wire or cable from top or bottom, front or back of reel with

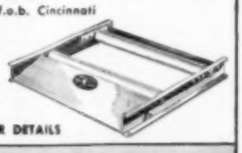
ROLL-A-REEL

Low slanted front and positive front lock insure quick loading or unloading.

Eliminate jacks and cumbersome handling.

Style A: 2,000 lbs. cap. 37.50
Style B: 4,000 lbs. cap. 75.00
f.o.b. Cincinnati

Carried easily to reels, job or storage.
Sold through wholesalers only.



WRITE TODAY FOR DETAILS

ROLL-A-REEL
327 WEST FOURTH STREET
CINCINNATI 2, OHIO

BREVITY—Identify by IEN - 5902 if you write the maker

Built-In Klixon Motor Protectors
Safeguards "Spin-It-Fans" From Motor Burnouts

The "Spin-It-Fan," manufactured by Chelsea Fan & Blower Co., Inc., is unique in the fact that it permits users to exhaust air or have it blow air into the room . . . simply by turning on the switch and turning a knob in the desired direction.

The motor has no start winding. This simplicity is made possible by the Klixon Protector which protects the motor for overheating and burning out should the operator overlook turning the starting knob. Should the motor become dangerously overheated from any causes, the Klixon Protector prevents the motor from burning out by snapping the power "off." When the motor cools sufficiently, all the user need do is *push the red button* and the fan is ready to operate again.

Keep motors operating by specifying and using Klixon Protected motors.

KLIXON SPENCER THERMOSTAT
Division of Metals & Controls Corp.
206 Forest Street, Attleboro, Mass.

BREVITY—Identify by IEN - 5903 if you write the maker

VERSATILE PRESS PRODUCES BENDS AND CURVES

Sharp, accurate bends quickly made.

Forming a 6-inch dia. cylinder. Can be made 20'-0" long.

For plants working with metal plate a Steelweld Press is about the most useful all-around tool you can imagine. It will do a wide variety of work—bending, forming, drawing, punching, etc.—with simple, easily set dies, usually at a big saving. Built for working metal of 12 gauge to one inch and for lengths to 20'-0".

Send for free copy of catalog No. 2010.

THE CLEVELAND CRANE & ENGINEERING CO.
4236 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

BREVITY—Identify by IEN - 5904 if you write the maker

Why use a SLEDGE HAMMER to drive a tack?

Write for free circulars.

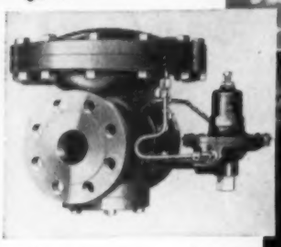
IDEAL for all low-tonnage requirements and assembly operations.

1 TON Midget Benchmaster
Other models Available

benchmaster PUNCH PRESSES AND MILLERS
2952 West Pico Boulevard, Los Angeles 6, California

BREVITY—Identify by IEN - 5905 If you write the maker

THE *Old Faithful* OF STEAM PRESSURE REDUCTION



FISHER® TYPE 92A
PILOT OPERATED CONTROL VALVE

SINGLE SEATED TIGHT CLOSURE

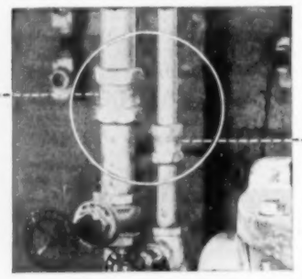
Two interchangeable pilot assemblies available for high or low pressure service.

Power engineers everywhere have ok'd the FISHER TYPE 92A for steam pressure control! It's an accurate, compact, flexible, sturdy controller, designed, built and proved to meet the **most exacting requirements** for steam service.

WRITE FOR BULLETIN C-3

FISHER GOVERNOR CO.
MARSHALLTOWN, IOWA

BREVITY—Identify by IEN - 5906 If you write the maker



"FLEXIBLE-TIGHT" JOINTS FOR FACTORY PIPING

For piping up to 2" in diameter, Dresser Style 65 "No-Thread" Fittings provide quick, permanent connections. On equipment piping, on gas, oil, water, air lines, these handy joints stay tight despite vibration, expansion and contraction. No pipe threading, no exact pipe aligning. The only tool needed is a wrench. Write today for catalog.

DRESSER "NO-THREAD" FITTINGS

Dresser Manufacturing Division (One of the Dresser Industries), 59 Fisher Ave., Bradford, Pennsylvania. In Texas: 1121 Rothwell St., Houston. In Canada: 629 Adelaide St., W., Toronto. Sales Offices: New York, Chicago, Houston, San Francisco.

BREVITY—Identify by IEN - 5907 If you write the maker

"CAP THIS" ...for lowered maintenance!

Silbiite ELASTOPLASTIC ALEMITE FITTING CAPS...

Keep the tips of alemite fittings clean. Prevent dirt or grit from being forced into bearings when grease gun is applied. Cut maintenance costs because—*the bearing that lives a clean life, lives a long life!*

Available for Zerk or Hydraulic, Button Head and 1/8" Dot Types. Black vinylite plastic, long-lasting, easy to apply, are not affected by oil, grease or gasoline.

ASK FOR FREE BULLETIN P-5103

THE Silbiite PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP 10 East 40th St. NEW YORK 16, N. Y.

BREVITY—Identify by IEN - 5908 If you write the maker

TRUCK . . Engine drive platform unit places operator on seat in the rear

Source: GAR-BRO MFG. CO.
2414-18 E. 16th St., Los Angeles 21, Calif.

The operator of this new rear-drive platform truck rides in seated position. The steering wheel connects to the front wheels. The engine drives a three-speed transmission to the rear wheels. The truck is designed to carry a 1-ton load. It also provides draw-bar capacity to tow an additional 3 ton.

The platform measures 4 ft. in width by 5½ ft. in length and stands 20 in. above the ground. The wheels are equipped with four-ply pneumatic tires and are mounted on Timken bearings. Three speeds are 20, 12, and 6.4 mph. Reverse is at 6.4 mph. Turning radius is 8 feet.

BREVITY—Identify by IEN - 5909 If you write the maker

BRAZING . . Silver alloy rod for torch or furnace application

Source: ALL-STATE WELDING ALLOYS CO.
271-5 Ferris Ave., White Plains, N. Y.

Also in wire strip and rings

Premium No. 155 is a new silver-alloy brazing rod containing 55 per cent silver. It is designed for use with No. 100 or No. 200 Brazaloy flux to assembly copper and copper-bearing alloys. It can be used with the No. 100 flux for ferrous alloys also. Working temperature is 1,155 deg. F. Developed tensile strength is 50,000 lb. per square inch.

BREVITY—Identify by IEN - 5910 If you write the maker

MAGNIFYING . . Illuminated fixture with 5 in. lens, four daylight lamps

Source: LARRIMORE SALES CO.
P. O. Box 1234-A, St. Louis 1, Mo.

Model 1234-U45 is a new unit in the company's Inspector line of fluorescent illuminated magnifying fixtures. The new design mounts a 5-in. 2X lens and surrounds it on four sides with 6-watt fluorescent lamps which illuminate a work surface without any shadows. The lens section swivels through a full circle. The supporting frame is adjustable for position. List price is $45.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5911 If you write the maker

FOTO-FLO* MODEL C PHOTO-COPYING MACHINE
New! Speedier! More Economical!

DAYLIGHT OPERATION NO DARKROOM REQUIRED

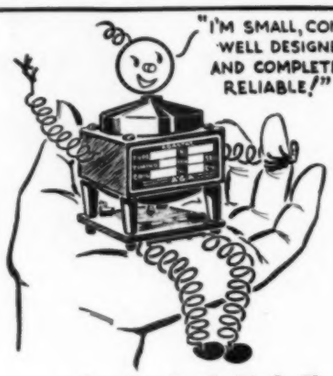
Makes up to 5 (18" x 24") Prints a Minute of anything written, printed, drawn or photographed

WRITE DEPT. 51-58 for information showing how FOTO-FLO can speed production and lower photo-copying costs.

*Reg. U. S. Pat. Off.

HALOID THE HALOID COMPANY ROCHESTER 3, NEW YORK
Branch Offices in Principal Cities
Photocopy Papers • Photo-copying Machines • Photographic Papers

BREVITY—Identify by IEN - 5912 If you write the maker



AGASTAT TIME DELAY RELAY

Solenoid actuated—pneumatically timed. For AC and DC service. A special diaphragm and cap encase the head, providing an enclosed, dustproof timing chamber in which the air used for timing is recirculated. Low cost with dependability.

AGA AIRPORT LIGHTING · AGA STROBOSCOPE REFLECTORS · AGA MARINE SIGNAL EQUIPMENT · AGA AGASTAT TIME DELAY RELAYS

AMERICAN GAS ACCUMULATOR COMPANY
1027 NEWARK AVENUE • ELIZABETH 3, N. J.

BREVITY—Identify by IEN - 5913 If you write the maker

Here's JOB SAFETY *at any height!* plus REAL ECONOMY!

for Painting and Overhead Work

BIL-JAX MAINTENANCE TRESTLES

Cut time and labor costs with these sturdy, all-steel trestle units. Many height variations possible, from one foot up. Ball bearing casters (locking type) make unit easy to maneuver. Patented. Underwriters' approved.

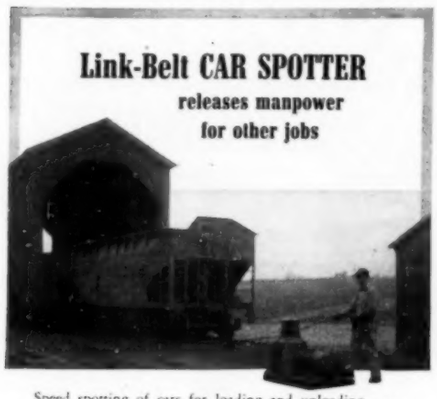
BIL-JAX INC. ARCHBOLD · OHIO · U-S-A

Available on sale or rental basis. Write for catalog L-6.

BREVITY—Identify by IEN - 5914 If you write the maker

H. K. PORTER, INC., SOMERVILLE 43, MASS.
PORTER-FERGUSON Auto Body and Fender Repair Tools
PORTER CUTTERS and PORTER PRUNERS

BREVITY—Identify by IEN - 5915 if you write the maker



Speed spotting of cars for loading and unloading . . . reduce switching and demurrage costs to a minimum. One man with two or three turns of rope around the motor-driven capstan controls movement of up to six railroad cars. Stationary or portable. Integral or separate 5 or 10 hp motors develop 5,000 and 10,000 lb. rope pull.

Link-Belt offers a complete line of car spotters . . . also specializes in drum type puller applications.

WRITE TODAY
For 16 Page Bulletin 1992-A

LINK-BELT COMPANY:
Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal cities.

BREVITY—Identify by IEN - 5916 if you write the maker

WORLD'S FINEST SLITTER KNIVES AND SHEAR BLADES made in OK Battle Axe, OK Dura Chrome and OK Standard.

The cutters shown are used on gang slitters — side trimmers and for tin plate. They are held to ± .00025 tolerances and are given an extremely high finish. Closer tolerances can be furnished on request.

We also furnish hardened and unhardened spacers with the same close tolerances and high finish as the slitters.

The large shear blade shown is furnished in the above three grades for shearing any type of metal and are made to fit any machine. Send us your inquiries giving quantities and sizes.

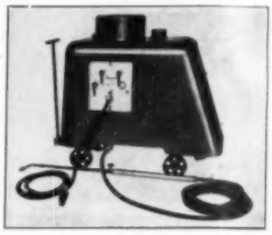
OK ROTARY SHEARS-BLADES are designed to give maximum service — tough as they come!

OHIO KNIFE Co. CINCINNATI 23, OHIO
WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF KNIVES

BREVITY—Identify by IEN - 5918 if you write the maker

CLEANING . . Steam spray machine cuts dirt, grease, also rinses, flushes

Source: HOMESTEAD VALVE MFG. CO.
P. O. Box 843-A, Coraopolis, Pa.



Model J0 is a new unit in the company's Hypressure Jenny line of steam-spray cleaning machines in combination with the Thoro-Purge flushing attachment, previously described IEN-4102-49. The machine employs an oil burner to generate steam in its boiler for delivery to a nozzle. It includes a tank from which cleaning solution is drawn to issue with the steam at the nozzle under pressure from 80 to 120 pounds. The boiling hot solution cuts dirt, grease, foreign matter from the surface sprayed.

Delivery capacity is 90 gph. with the standard Cool-Grip cleaning gun. It can be increased to 480 gph. with an Adjusta-Blast gun, which is subject to specification. The machine also can be specified with a gasoline engine in place of the motor. Mounting is on 7-in. semi-steel wheels or when specified on 6-in. rubber-tired wheels. Two designs include the DeLuxe combination illustrated and a Universal combination of cleaning machine and circulating equipment. Overall dimensions are 55 by 25 by 48 inches. Operation is on 110-volt 60-cycle ac.

The Thoro-Purge has a special nozzle to fit into the radiator hose on a motor vehicle. Operation is set and altered at control valves to direct a flow of steam, hot cleaning solution, air or cold water for counter flow through the water passages entering the radiator at the bottom and coming out with the foreign matter at the top. Change from hot to cold action assists in loosening scale from interior surfaces.

BREVITY—Identify by IEN - 5919 if you write the maker

GAGE . . Reads thickness of a dry film, such as paint, enamel

Source: HENRY A. GARDNER LABORATORY, INC.
4725 Elm St., Bethesda 14, Md.

Film thickness to 20 mils in standard setting, or to about 50 mils following readjustment, can be made in any dry non-conductive film or sheet material when this material is on an electrically-conductive base. The gage is mounted on three insulator feet through one of which, immediately beneath the top dial, is a penetrator needle. Beside this dial is an indicator lamp connecting to a battery in the housing. The lamp forms part of a circuit with the battery through a plug-in connection in the side of the housing for a line leading around the film to contact the conductive base.

Packaging is in a lined carrying case with a base lock for zero setting. The electrical conductor cord and clip, two spare batteries, three spare needles, one spare lamp and the necessary tools are included. List price is $112.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5920 if you write the maker

BREVITY—Identify by IEN - 5921 if you write the maker

The new, improved Ansul Model "B" Extinguishers have the greatest fire-killing ratings* ever attained by hand portable fire extinguishers. In addition, WATER-TIGHT CONSTRUCTION, (Exclusive with ANSUL) has resulted in far greater dependability than any other dry chemical extinguisher.

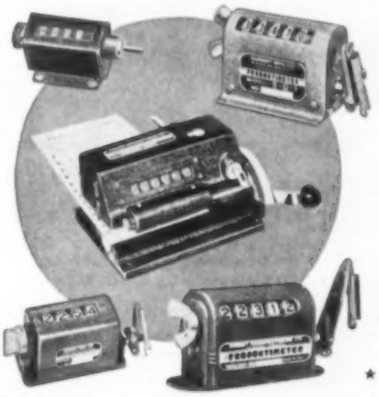
Exclusive Features: Patented Nozzle assures most effective stream pattern. . . . Best results by inexperienced operators. Corrosion resistant construction throughout. Easy on-the-spot Recharging (No tools needed). Ansul "PLUS-FIFTY" Dry Chemical used exclusively. Field tested by thousands of satisfied customers.

Send for file No. 629. You will receive a variety of helpful printed matter. Included is our latest catalog.

**Factory Mutual Laboratory Reports of Examinations and Tests.*

ANSUL CHEMICAL COMPANY
FIRE EXTINGUISHER DIVISION • MARINETTE, WISCONSIN
DISTRIBUTORS IN ALL PRINCIPAL CITIES IN THE U. S. A. CANADA AND OTHER COUNTRIES

BREVITY—Identify by IEN - 5922 if you write the maker



Productimeters for every counting job can be built into your machines. This metered accuracy is desired and an added sales feature — so important to those who know that Productimeter control means increased profits.

Send for Catalog No. 100

DURANT MANUFACTURING CO.
1930 N. Buffum Street, Milwaukee 1, Wisconsin
130 Orange Street, Providence 3, R. I.
Representatives in Principal Cities

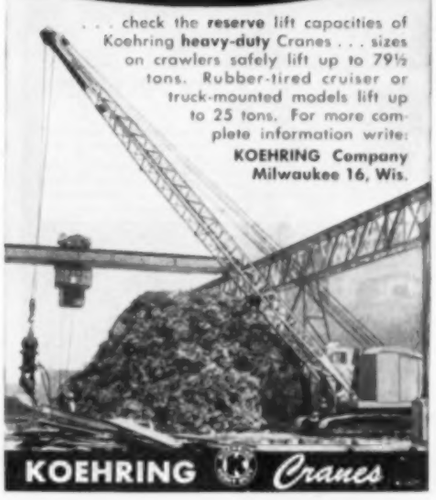
PRODUCTIMETERS SINCE 1879 *Count Everything*

BREVITY—Identify by IEN - 5923 if you write the maker

For BIGGER DAILY TONNAGE

. . . check the **reserve** lift capacities of Koehring **heavy-duty** Cranes . . . sizes on crawlers safely lift up to 79½ tons. Rubber-tired cruiser or truck-mounted models lift up to 25 tons. For more complete information write:

KOEHRING Company
Milwaukee 16, Wis.



KOEHRING *Cranes*

BREVITY—Identify by IEN - 5924 if you write the maker

YOURS . . . for the asking

3 HELPFUL FOLDERS

featuring tips for extending the service life of plant equipment

• FACTUAL INFORMATION and easy-to-follow illustrations make these folders valuable to plant engineers and maintenance men . . . and important additions to any power transmission service manual. Send for copies. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

BREVITY—Identify by IEN - 5925 if you write the maker

Are Your
ELECTRICAL CONNECTORS
Jerk Resistant?

Jerked disconnects cause many apparently excellent connectors to open or short-out quickly.

Not JOY Portable Plugs, however . . . they're designed for rough treatment! Integrally molded of Neoprene rubber and joined to their cables by tapered-neck vulcanization, they *outwear* and *outperform* molded phenolic, plastic or porcelain types. In addition, JOY Connectors can't crack or shatter, and are impervious to the ill effects of moisture, oil, acids and dust.

Write for DESCRIPTIVE BULLETIN TODAY

It will pay you to investigate the complete JOY Connector line before placing your next electrical connector order. ME—349.1

SEE OUR CATALOG in SWEET'S FILE

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD. GALT, ONTARIO

1851-1951—100 Years of Engineering Leadership

BREVITY—Identify by IEN - 5926 if you write the maker

INDUSTRIAL ENGINES

MODERATE SPEED
HEAVY-DUTY DESIGN

MM engines and power units are used in several sizes as original power installations for heavy and continuous service equipment. Standardization of many parts results in high-production for finest quality, low cost per hp, and superior repair parts service. Design flexibility and standard SAE housings provide low-cost installations for any type of drive required.

Have your shovels, trenchers, graders, hoists, crushers, pumps, generators, and drill rigs equipped with MM POWER.

25-230 hp

MINNEAPOLIS-MOLINE
MINNEAPOLIS 1, MINNESOTA

For Your Special Information

ALL MAKERS ARE LISTED — IEN S-16

Following are excerpts from a brochure recently published concerning Thomas' Register of American Manufacturers—**8,000 pages,** 9 by 14 in., are required for the product classifications included in the main sections to tell you about all the manufacturers of all products made in these United States. . . . Annual revision to keep the information current requires setting some 1,000,000 lines of type. . . . Each edition totals approximately 19,000 paid subscriptions. . . . Approximately 25,000 copies are in active use.

Important industrial firms and other large buyers including government procurement agencies, public utilities, city purchasing departments, order and pay for 96 per cent of the total circulation. . . . About 8,500 manufacturers purchase advertising space and 2,000 of these use the Register only to bring you information about their products.

If you are not now a subscriber and would like to reserve a copy for 1952, just contact W. C. Scoltock, Circulation Manager, Thomas Publishing Co., 467 Eighth Ave., New York 1, N. Y. List price is $15 plus handling changes.

SCRAP IS NEEDED AT ONCE — IEN S-17

One steelmaking furnace is now idle for lack of scrap. Furnaces at two other plants are threatened with shutdown. Scrap inventories have declined from an average of 50 days to 21 days in a period of three months.

It is imperative that everyone start scrap flowing promptly from plants, railroads, shipyards, automobile graveyards.

IEN ON MICROFILM — IEN S-18

For about $3.50 you can purchase the twelve issues of IEN for 1950 on microfilm. The service is available on a yearly basis through University Microfilm, 311-15 N. First St., Ann Arbor, Michigan. Each page is printed on 35-mm. film.

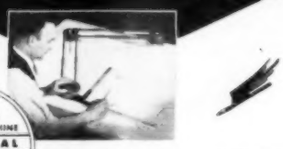
U. S. SAVINGS BONDS — IEN S-19

"One Week for Amerira" titles a new 12-page booklet outlining the methods used in a successful campaign for purchase of U. S. Savings Bonds by B. F. Goodrich Co., Akron, Ohio. A copy is available on request without charge. The booklet is presented to assist top management in directing a person-to-person campaign to install payroll savings for bond purchases and to step up purchases of those already in the plan. Application in its own plant resulted in increase in payroll savings from 20 to 80 per cent in 7 days.

Top Management:
YOUR BOOST
IS NEEDED MOST

BREVITY—Identify by IEN - 5927 if you write the maker

IT'S TIME TO "TOOL-UP" YOUR ENGINEERING



THE ORIGINAL DRAFTING MACHINE UNIVERSAL and still the PACE SETTER after 50 years 1901 1951

Design changes on consumer products to eliminate critical materials—designs for new defense items—new shop layouts to speed defense production—all call for new drawings—fast. To achieve the drawing speed demanded by today's industrial needs, "tool-up" your engineering—equip every drawing board with a Universal Drafting Machine.

For fifty years Universal Drafting Machines have been eliminating the waste motion and annoyance of manipulating the loose tools of the drafting art, by combining most of them in a single precision instrument. Today's Boardmaster Model, perfected to include every worthwhile feature, is in use in thousands of drafting rooms—saving effort—cutting drawing time 25 to 40 percent—and saving money so fast that it pays for itself in just a few months.

It's later than you think—but it's not too late, if you act promptly to "tool-up" your engineering NOW while Boardmasters and Duraline Scales are still in full production. Write for descriptive literature. Universal Drafting Machines Corporation, 7960 Lorain Avenue, Cleveland 2, Ohio.

UNIVERSAL
DRAFTING MACHINE — DURALINE SCALES

BREVITY—Identify by IEN - 5928 if you write the maker

HERE IT IS!
the new B&S
duplex REWINDER

OUTSTANDING FEATURES:
- Simplicity of design
- Variable-speed Drive
- High speed (up to 1500 ft. p.m.)
- Compact—saves space
- Vibrationless
- Hydraulically driven differential Rewind Shafts
- Air-Operated Slitters for strips as narrow as ⅛ inch
- Accurate pressure control between Drum and Rewind Shafts
- All hydraulic and air Piping enclosed in Frame
- All Controls easily accessible
- Ease of operation and maintenance
- Efficient and economical

For further details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

BAGLEY & SEWALL
WATERTOWN, NEW YORK
designers and builders of QUALITY MACHINERY SINCE 1853
500 FIFTH AVE., NEW YORK 18, N. Y.

BREVITY—Identify by IEN - 5929 if you write the maker

Need DRY AIR?

Get *positive* protection with Strong's Combination Separator and Trap!

Spray guns, air chucks, fixtures and other air-using equipment, *must* be kept free of water and oil for best results. Strong's Combination Separator and Trap will completely separate all liquids from air (or steam) and automatically discharge them.

CHECK THESE FEATURES:
- ★ Highest operating efficiency;
- ★ No cleaning required;
- ★ Copper-clad steel float (stainless steel at additional cost);
- ★ Anum-Metl seat and disc—guaranteed leakproof for one year;
- ★ Sizes from ½ to 1½ inches, screwed; pressures to 250 psi.

Other products in the *complete* STRONG Steam Specialties line include steam traps, strainers, separators, pressure regulators and continuous blow-down valves. For complete information, write for your copy of our new Catalog 68-I today, or see one of our over 200 distributors.

STRONG, CARLISLE & HAMMOND CO.
1392 West 3rd Street
Cleveland 13, Ohio

OTHER STRONG STEAM SPECIALTIES

Reducing Valve — Inverted Bucket Trap — Air or Vent Trap

STRONG

BREVITY—Identify by IEN - 5931 if you write the maker

Dependable-Efficient Small Transformers

The sizes and styles you want

Standard and special types of small Uptegraff Transformers are available, for indoor or cabinet service. Sizes from 0.1 to 10 KVA. Totally enclosed dry types, and styles for built-in applications.

The design and manufacture of small transformers comes under a separate division within the Uptegraff organization. Skillful engineering, workmanship of the highest order and careful inspection and testing insure top quality when you specify UPTEGRAFF.

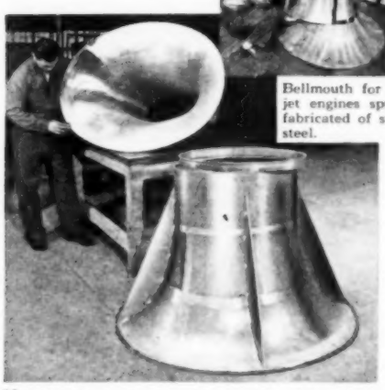
R. E. UPTEGRAFF MANUFACTURING CO.
THOMAS STREET . . . . SCOTTDALE, PENNSYLVANIA
Makers of Power · Distribution · Instrument · Specialty Transformers

BREVITY—Identify by IEN - 5932 if you write the maker

Cut the cost of dies Gain weeks of time

Spincraft SKILL WILL DO IT

spinning and fabricating can Help You Lick Production Problems



Bellmouth for testing jet engines spun and fabricated of stainless steel.

HIGH tooling costs—months of waiting time—the urgency of the hour—these very real conditions need not bring despair to able designers and alert production executives. Spincraft engineering may well provide you with a welcome solution at a small fraction of conventional fabricating costs and in far less time.

The parts or products you see here reflect what can be done by spinning and fabricating in combination. This resourceful approach provides a wide range of opportunities in many metals that you are invited to discuss with Spincraft engineers. The answer you want cannot be guaranteed, but others have been helped so often and so well that Spincraft has become the world's largest metal spinning and fabricating plant. Call or write

Send for the Spincraft Data Book—40 pages of engineering information that will be helpful to you.

Spincraft SKILL WILL DO IT INCORPORATED

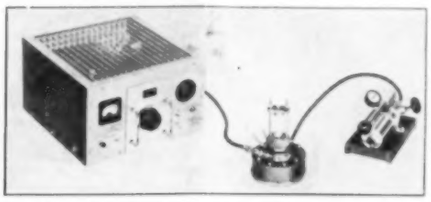
Heretofore known as Milwaukee Metal Spinning Co.

4153 W. State St. Milwaukee 8, Wis.

BREVITY—Identify by IEN - 5934 if you write the maker

PROCESSING . . Ultrasonic equipment processes materials by sound vibration

Source: BRUSH DEVELOPMENT CO.
3631 Perkins Ave., Dept. H, Cleveland 14, Ohio



Model BU-101-A is a recently improved assembly of the company's Hypersonic processing equipment, previously described IEN-1024-50. The equipment includes the generator shown to the left in the illustration, the transducer shown in the center and the hydraulic pressurizing pump to the right. Interchangeable tuning drawers in the generator cover frequency ranges from 100 to 300 kc. and from 300 to 1000 kc. Power output is 250 watts through both ranges. Operation is on 110-volt 60-cycle single-phase ac.

Characteristics of the new design are provision for focusing and utilization of the ultrasonic energy developed in the transducer ceramic element and in improved overall performance as compared with the company's original design. List price is $1,400.

Bulletin, 4 pages, "Hypersonic Equipment," presents illustrated description of the elements entering into the assembly and a sectional view of the transducer.

BREVITY—Identify by IEN - 5935 if you write the maker

VENTILATING . . Motor driven fan in two general purpose assemblies

Source: KISCO CO.
2402 DeKalb St., St. Louis 4, Mo.

Versatil-Air, as illustrated, and Portable Box-Air are two new assemblies of motor-driven ventilating fans. The former measures 16 in. in diameter over the blades and employs a motor with three-speed control for maximum rating of 1,850 cfm. of free air. The motor operates on 110-volt 60 cycle ac. and draws 170 watts. The assembly measures 20 in. in height by 20½ in. in diameter. It lists at about $50.

The Box-Air design encloses a 24-in. fan in a rectangular housing faced with expanded metal on the front and back. The housing is mounted on structural legs equipped with casters and is adjustable between 34 and 46 in. in height. The housing measures 30 by 30 in. in width and height. This unit employs two-speed control with ratings at 2,700 and 4,600 cfm. The motor operates on 110-volt 60-cycle ac. and draws 300 watts. It is belt connected to the fan inside the housing. List price is about $98.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5936 if you write the maker

NICE BALL BEARING COMPANY
NICETOWN, PHILADELPHIA, PENNSYLVANIA

BREVITY—Identify by IEN - 5937 if you write the maker

For Dependable, High-Pressure Connections

BLACKBURN *Hi-Strength* **CONNECTORS**

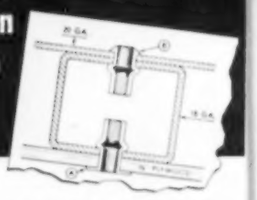
High-pressure connections are the best electrical connections. They are also the best mechanical connections because tests show that they have better ability to stay tight—are trouble-free once installed.

All connectors in the famous BLACKBURN Hi-Strength Line produce high pressure connections. Also, they are priced right to give you low cost connections that you can depend upon . . . Be sure to specify BLACKBURN!

SEND FOR CATALOG
JASPER BLACKBURN CORPORATION
25 Madison St. • St. Louis 6, Mo. • CEntral 3007

BREVITY—Identify by IEN - 5938 if you write the maker

NEW, BETTER way to fasten plywood to steel...



Rivnut "A" fastens plywood walls to tubular steel sections in trailers. It is easier to install than wood or self-tapping screws, fits flush with the plywood, requires no wood filler. Note large washer head and ring-shaped bulge which prevents Rivnut pulling through plywood under stress or vibrating loose in service. Rivnut "B" fastens steel securely to opposite side of section. Both Rivnuts serve as blind rivets and nutplates too. Perhaps Rivnuts will solve your fastening problem. Write to B. F. Goodrich, Dept. IE-61, Akron, Ohio.

SEND NOW FOR FREE RIVNUT DEMONSTRATOR

Shows with motion how Rivnuts work. Explains construction, gives proved applications. For your free demonstrator, write to

B.F.Goodrich Dept. IE-61, Akron, Ohio

BREVITY—Identify by IEN - 5939 if you write the maker

C-136-A Series. Roller Bearing Celoron Wheels.

√practical Design
√sound Construction
√proved Performance

Design — construction — performance . . . these are the watchdogs that govern the building of every Bond 36-A Caster.

Bond 36-A Series Casters are among the most popular swivel casters used throughout industry. Fork, base and king bolt construction distributes the load evenly. The double ball race is pressure lubricated for easy swiveling.

Send for a copy of Bond Catalog K-38; it includes information on *all* Bond Casters . . . write today.

BOND FOUNDRY & MACHINE CO.
MANHEIM, PA.

Bond built-for-the-job 36-A SERIES CASTERS

136-A Series. Equipped with Roller Bearing Semi-Steel Wheels.

BREVITY—Identify by IEN - 5940 if you write the maker

for easier...cleaner glue handling at less cost!

ALEMITE VERSATAL PUMPS

Air-operated Versatal Pumps deliver glues and adhesives directly from bulk storage to your point of application. Saves time and work. Ends troublesome handling and transferring of materials.

Hydraulic pressures deliver materials through as much as 1000 feet of hose or pipe, serve up to six spray heads. For FREE book of ideas on how Alemite Versatal Equipment can help solve your material handling problems, write Alemite, Dept. B-61, 1830 Diversey Pkwy., Chicago 14, Ill.

ALEMITE Versatal SPRAY PUMP EQUIPMENT

Another Product of Stewart-Warner

BREVITY—Identify by IEN - 5941 if you write the maker

TO: Purchasing Dept.
FROM: Production Dept.

Bill,
When you place orders with toolmakers, please insist on V-R Carbides.
Performance counts and V-R has it.
Fred

CERTIFIED CARBIDES ★ TANTUNG CAST ALLOYS ★ Over 24 Years V-R WAUKEGAN ILLINOIS U.S.A. VASCOLOY-RAMET CORPORATION

VASCOLOY-RAMET CORPORATION
WAUKEGAN, ILLINOIS

BREVITY—Identify by IEN - 5942 if you write the maker

Man-Cooler!

Coppus Airplane Type Heat Killer

cools large areas — restores efficiency

HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information. COPPUS ENGINEERING CORPORATION, 146 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

BREVITY—Identify by IEN - 5943 if you write the maker

PROTECTING . . Salt tablets for workers operating in hot locations

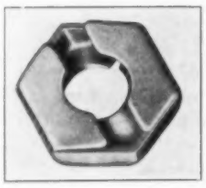
Source: UNITED STATES SAFETY SERVICE CO.
1213-17 McGee St., Kansas City 6, Mo.

New formula has been developed and is now being employed in the manufacture of the company's Pep-Up impregnated salt tablets. Only a certain amount of salt is released immediately after swallowing the tablets. The rest dissolves slowly to eliminate any chance for stomach distress. The tablets are packaged in a dispenser container that can be attached to a wall in inverted position and can be discarded when it is empty. Two dispensers containing 500 and 1,500 10-grain tablets each are packed 12 or 6 to a carton. A package also is available of 1500 10-grain tablets in units of 6 to a carton.

BREVITY—Identify by IEN - 5944 if you write the maker

FASTENING . . Sheet metal nut provides double locking spring action

Source: PRESTOLE CORP.
1325 Miami St., Toledo 5, Ohio



Hex Lox Nut is a new one-piece double-acting spring-type sheet-metal lock nut. It provides a 360-deg. grip into the root of a screw on which it is threaded. The nut is made of SAE-1060 steel in 0.016 and 0.020 inch thickness. Five sizes are available between 6-32 and ¼-20. The nut meets and exceeds test specifications MIL-N-3337.

BREVITY—Identify by IEN - 5945 if you write the maker

THERMOSTAT . . Disc type unit, threaded mounting for immersion use

Source: SPENCER THERMOSTAT DIVISION
110-14 Forest St., Attleboro, Mass.

No. C4371 is a new snap-action disc type thermostat for immersion where external surface temperatures do not follow closely. The disc housing is solder sealed on the end of a bronze body fitted with a 1-in. pipe thread. Movement of the disc is communicated through a beryllium-copper spring switch arm to silver contacts mounted on a molded insulator.

Switch action is single or double-throw, single-pole design rating to 10 amp. on 30-volt dc., 8 amp. on 220-volt ac. Temperature is factory preset and non-adjustable. Operating differential can be specified at 15 deg. F. or more.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5946 if you write the maker

A NEW INSULATION TESTER IN NON-BREAKABLE TEAKWOOD CASE

- SMALL SIZE LOW PRICE
- CONSTANT PRESSURE
- SLIP CLUTCH
- DC GENERATOR TYPE

New **"MAJOR" MEGOHMER**

With Extra Ohm Scale!

Ranges: 0-50 megohms and 0-30 ohms, or 0-10,000 ohms. Test potential 500 volts DC.

Size: 7½" x 4" x 4"
Weight: 4 lbs. 14 ozs.

Furnished with genuine leather carrying case, 12 ft. test leads and 100 megographs.

True Ohmmeter movement independent of generator voltage.

A REMARKABLE INSTRUMENT... AT A REMARKABLE PRICE

For full details write for Bulletin 465

HERMAN H. STICHT CO., INC.
27 PARK PLACE NEW YORK 7, N. Y.

BREVITY—Identify by IEN - 5947 if you write the maker

PURE WATER PROBLEMS SOLVED WITH Barnstead EQUIPMENT

DISTILLED WATER? DEMINERALIZED WATER?

In hundreds of manufacturing processes, where complete purity is needed, Barnstead Stills provide the highest-quality, lowest-cost, chemically pure, sterile water from ½ to 1000 gallons per hour. With over 100 different models to choose from, Barnstead can provide the exact still to fit your particular needs. For Barnstead Laboratory and Industrial stills are the proven standard of the scientific and industrial world.

WRITE

Catalog #123 gives both sides of the Pure Water Picture. Since Barnstead makes both stills and demineralizers, you'll find this catalog complete, authoritative, unbiased. Write Today!

Where modern manufacturing processes require only high-test mineral-free water, Barnstead Demineralizers are the best producers . . . 5c per 1000 gallons with a minimum of supervision and maintenance. Many new industries are turning to Barnstead Demineralized Water for greater production, fewer rejects and better quality control.

Barnstead STILL & STERILIZER CO.

First in Pure Water since 1878

50 Lanesville Terrace, Forest Hills, Boston 31, Mass.

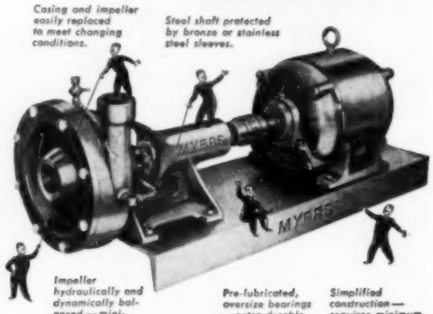
BREVITY—Identify by IEN - 5948 if you write the maker

You Can See the extra value in NEW MYERS centrifugal pumps!

New Myers Direct-Connected Centrifugals: Available with or without motor. Sizes, ½ H.P. to 10 H.P.

Casing and impeller easily replaced to meet changing conditions.

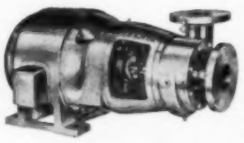
Steel shaft protected by bronze or stainless steel sleeves.



Impeller hydraulically and dynamically balanced—minimizes thrust.

Pre-lubricated, oversize bearings—extra durable.

Simplified construction—requires minimum installation space.



New Myers Motor-Mounted Centrifugals: Extra-compact. Exceptionally rugged. Sizes 1 H.P. to 20 H.P. Available in three material combinations—standard fitted, all-bronze and all-iron.

New Myers Belt-Driven Centrifugals: V-belt or flat-belt drive. Oversize shaft is removable from either end of pump. Types to handle many different liquids at temperatures to 220° F.

Steady volume . . . outstanding operating economy . . . smooth, trouble-free performance—you get them *all* in these new Myers Centrifugal Pumps. Line includes models that are ideal for general industrial applications—including drainage, booster service, air conditioning, etc.—also adaptable for irrigation and many other agricultural uses. All Myers Centrifugals are easily serviced. Capacities to 650 gpm. Write for complete catalog and name of your distributor.

TAKE OFF YOUR HAT TO MYERS PUMPS · WATER SYSTEMS · HEATERS · HAT TOOLS

THE F. E. MYERS & BRO. CO.

Dept. T-248, Ashland, Ohio

BREVITY—Identify by IEN - 5950 if you write the maker

Workmen cannot touch conductor bars on cranes or monorails when bars are enclosed in CON-L-DUIT, a specially compounded neoprene-base insulation. CON-L-DUIT leaves no gaps or openings for fingers or bars to enter. CON-L-DUIT *provides complete protection* on curves, straight runs, switches, interlocks and drop sections. It is inexpensive and easy to install. Made in sizes to fit all new or existing figure-8 conductor bar systems, CON-L-DUIT surpasses State Safety Codes. Dealers everywhere.

WRITE FOR CATALOG

CON-L-DUIT

APPROVED SAFETY ENCLOSURE

CALABAR CORP. South Gate, California

BREVITY—Identify by IEN - 5951 if you write the maker

SEE FOR YOURSELF—Next time try a FORT WORTH TRANSCO QD SHEAVE

FORT WORTH WAREHOUSES MEAN BETTER V-DRIVE SERVICE

You will receive the best in service, sheaves, and V-belts when you buy a Fort Worth-Transco V-drive.

Two manufacturing plants and a large foundry, designed to make sheaves, assure volume production even in periods of short supply. Factory warehouses in most large industrial centers supplemented by numerous stocking distributors provide quick delivery of stock sizes.

We will be pleased to advise you the name of your nearest stocking distributor.

"QD" HUB ALSO FITS NEW FORT WORTH "QD" Roller Chain Sprocket

Speed changes are simplified and "spare" sheaves and sprockets can be carried more easily.

If your favorite distributor doesn't stock the Fort Worth QD line — both sheaves and sprockets, tell him about them. He'll reward you with better service.

Write for descriptive catalogs on "QD" Sprockets and Sheaves. Address Dept. 26, and they will be sent to you immediately.

OTHER FORT WORTH PRODUCTS: ROLLER CHAIN SPROCKETS, SCREW CONVEYORS and ACCESSORIES, SCREW ELEVATORS, INDUSTRIAL FANS

FORT WORTH STEEL AND MACHINERY CO.

Dept. 26, 3600 McCart St. FORT WORTH, TEXAS

BREVITY—Identify by IEN - 5952 if you write the maker

Accurate Tapping means Stronger Fastenings

HY-PRO TAPS

Threaded parts of your assembly can be fastened with increased strength and resistance to vibration by tapping all holes with HY-PRO Ground Thread Taps. Strong, tight fastenings result from the close tolerances of precisely tapped threads that are perfectly mated with screw or bolt threads to form an enduring union.

Order through your distributor

COMMERCIAL, PRECISION SPECIAL GROUND THREAD TAPS

A Subsidiary of Continental Screw Co.

HY-PRO TOOL CO.

New Bedford, Mass. U.S.A.

BREVITY—Identify by IEN - 5953 if you write the maker

PRESS . . Hand operated design applies cam on spring-backed ram

Source: I. H. BRADLEY & SONS
264 Fifth St., Bridgeport 7, Conn.

Two sizes are available in the hand-operated press shown in the illustration. It represents acquisition by the company of the Boering tool line. Strokes are maximum at 1½ and ½ in. with adjustment at 1 and at ⅞ inches. The ram is held up against the lever-operated cam by a spring in each case. The presses are designed for bench mounting to perform various forcing and assembly operations with their capacities.

Working surface on the bed measures 5 by 5 in. and 3 by 3 inches. Throat dimension is 2¾ and 1½ inches. Weights of the two press sizes are 22 and 6½ pounds.

BREVITY—Identify by IEN - 5954 if you write the maker

CLEANING . . Treated tissue and dispenser to wipe optical lenses

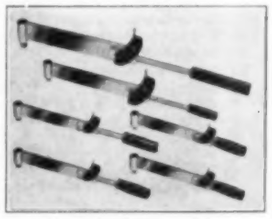
Source: AMERICAN OPTICAL CO.
12-16 Mechanic St., Southbridge, Mass.

Tissue sheets, measuring 5 by 6¾ in., are packed 800 to a packet and six packets to a carton. They issue one at a time when drawn from the bottom of a metal dispenser as shown in the illustration. The tissues are silicone treated. They will remove dust, dirt, lint and smears from lenses in goggles, spectacles, hoods.

BREVITY—Identify by IEN - 5955 if you write the maker

WRENCH . . Torque indicating design signals operator by pointer on dial

Source: BONNEY FORGE & TOOL WORKS
51 Tilghman St., Allentown, Pa.



Three sizes with square driver measuring ⅜, ½ and ¾ in. are included in a new line of torque-indicating wrenches. The unit includes a calibrated tension bar between the handle and head and an arm-mounted pointer secured to the head to move over a dial near the handle end. The handle is pivot mounted to maintain constant leverage. The dial reads in foot pounds or inch pounds as desired.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5956 if you write the maker

Announcing AJAX DIHEDRAL COUPLINGS

• Ajax Dihedral Couplings save thousands of dollars by eliminating necessity for precision alignment of driving and driven shafts.

They are ideal for uses such as rolling mills, paper and printing machinery and countless other installations.

Eliminate Misalignment Troubles

• Exclusive Ajax Dihedral tooth shape provides for misalignment up to 7° with tooth clearance (backlash) kept to oil film requirements. Positive oil seals keep lubrication in and dirt out.

If you use couplings Write for Bulletin No. 50

AJAX FLEXIBLE COUPLING CO. INC.
WESTFIELD, NEW YORK

BREVITY—Identify by IEN - 5957 if you write the maker

ROTO-CLONES

save 14 tons of sugar daily

A large Cuban sugar refinery saves 14 tons of sugar during a 24-hour day with their three AAF Type N Roto-Clone* dust collectors. Widely used in foundries, metal working, chemical and other industries, the many types and sizes of Roto-Clone dynamic precipitators solve most industrial dust problems.

Your nearby AAF representative will give you many ideas on dust control . . . from salvaging material to solving air pollution problems. Call him today.

**ROTO-CLONE is the trade-mark (Reg. U. S. Pat. Off.) of the American Air Filter Company, Inc., for various dust collectors of the dynamic precipitator and hydrostatic precipitator types.*

AAF **American Air Filter** COMPANY, INC.

335 Central Ave., Louisville 8, Ky. • In Canada: Darling Bros., Ltd., Montreal, P. Q.

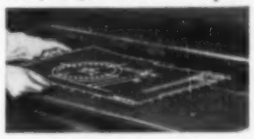
BREVITY—Identify by IEN - 5958 if you write the maker

How to get extra copies of blueprints —fast!

A case history based on the experiences of the American Brake Shoe Company, Kellogg Division, Rochester, N. Y.

The blueprints (and direct-process prints) submitted by customers placing machining orders used to be a problem for the Kellogg Division, American Brake Shoe Company.

Invariably, prompt delivery was requested. But . . . before production could begin in the shop, extra copies of each customer-print were needed. Being semi-opaque, these prints could not be used as "masters" in Kellogg's direct-process machine. How, then, could the extra copies be obtained in the shortest time . . . and at the lowest cost?



Kodagraph Autopositive Paper was the answer.

Now...extra copies are made quickly...economically. With "Autopositive," Kellogg reproduces the blueprints, direct-process prints, and other types of "originals" *directly* . . . quickly obtains the print-making masters that are needed so urgently.

The operation is simple . . . is performed under ordinary room illumination. "Autopositive" is exposed in contact with the customer's print in Kellogg's direct-process machine. It is then processed in standard photographic solutions. The result is a sparkling, long-lasting photographic intermediate—dense blacks, clean whites—on a durable, evenly translucent paper base. Using this, the required number of extra copies can be turned out . . . at practical, uniform machine speeds.

Kodagraph Autopositive Paper

"THE BIG NEW PLUS" in engineering drawing reproduction

Write for new free booklet, "Modern Drawing and Document Reproduction." It gives all the facts about revolutionary "Autopositive," which you, or your local blueprinter, can process quickly, economically.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

BREVITY—Identify by IEN - 5960 if you write the maker

JOMAC GLOVES

picked by maker of electrical conduit boxes because of washability

A large manufacturer of electrical conduit boxes* formerly threw away all soiled work gloves. Today he reports great savings with Jomac Gloves, which are laundered over and over.

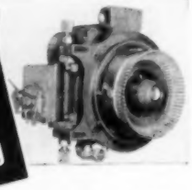
*Name on request.

Jomacs are
Washable • Reversible • Flexible • Heat-resistant
Protect against heat, cold, rough and sharp edges

C. WALKER JONES CO.
6135 N. Lambert Street, Philadelphia 38, Pa.

BREVITY—Identify by IEN - 5961 if you write the maker

Forget fuel worries



with IRON FIREMAN GAS-OIL Combination Firing

Change from one fuel to another in a matter of minutes

Here's double economy for your plant. Iron Fireman's gas-oil combination protects you against costly shutdowns due to emergency fuel shortages—saves money by taking advantage of special seasonal rates in many areas. Gas burner is a high-pressure ring type burner. Fires either natural or mixed gases with top efficiency. The Iron Fireman Rotary Oil Burner is designed to fire No. 6 oil or lighter. Fits all types of high or low pressure boilers and industrial applications. (Capacities up to 500 boiler horsepower). Write for detailed information and specification charts.

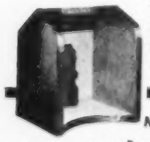
IRON FIREMAN
MANUFACTURING COMPANY
3169 WEST 106TH STREET CLEVELAND 11, OHIO

BREVITY—Identify by IEN - 5962 if you write the maker

PREVENT *COSTLY* TELEPHONE *MISTAKES*

by HEARING WELL

While telephoning from a noisy shop location, a mis-heard word, order, or dimension can often result in costly mistakes. You owe it to your business to provide a quiet place for telephoning. This can be had for as little as 7¢ a day with a Burgess-Manning Model 211 Acousti-Booth. Its thick walls of sound-absorbent material soak up intense shop noises. A zone of quiet inside the booth provides a quiet, restful place to hear well. Conversations are clearer . . . "private." Airy . . . easily moved . . . sturdy construction. Ideal, also, for noisy locations in stores, hotels, railroad and airport terminals.



Order Burgess-Manning Model 211 Booth, Today

• Scout Model 601 Acousti-Booth is of all-wood construction. Ideal for noisy spots in hotels, airport terminals. • Model 602 is of rugged, all-steel construction. Ideal for noisy, congested locations in plants.

MAIL COUPON FOR FREE BULLETIN

Burgess-Manning Company
743-A East Park Avenue, Libertyville, Illinois

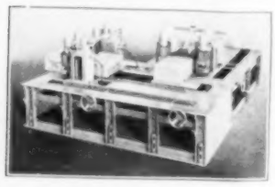
Please send illustrated booklet describing the Burgess-Manning Model 211 Acousti-Booth.

NAME
FIRM NAME
STREET-CITY

BREVITY—Identify by IEN - 5963 if you write the maker

MARKING . . Roll type machine prints on sides of filled containers

Source: ADOLPH GOTTSCHO INC.
6D Terminal Road, Hillside, N. J.



Trade marks, overall designs are roll-printed on four sides of filled cartons or wood shipping containers upon passage of the containers through this new Markoprinter machine. Movement through the machine is rectangular to print opposite sides at one roll-equipped station and the sides positioned at right angles with these first ones at the second station. The machine controls timing and spacing and can be installed at any one of several points in a packaging line. Marking is by rubber dies mounted on rotary die wheels driven in synchronism with movement of the packages so the mark is printed without drag. Ink is recirculated steadily and a metered amount is delivered to each die in the printing assembly.

BREVITY—Identify by IEN - 5964 if you write the maker

DISINFECTING . . Liquid solution for use in shower room, foot bath

Source: WEST DISINFECTING CO.
42-18 West St., Long Island City 1, N. Y.

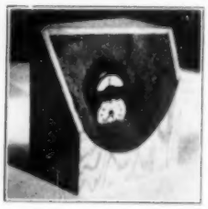
Kills the tough resistant spores

Iodine, the basic active constituent in the company's new Dynepal Showersan disinfectant, is rendered stable, non-irritating and non-staining without loss of any of its disinfecting or fungicide properties for use in shower room and in foot baths to combat the spread of Athlete's Foot. The solution also can be employed for cleaning operations on wall, floors and fixtures.

BREVITY—Identify by IEN - 5965 if you write the maker

PACKAGING . . Rubberized curled hair cushions, protects delicate equipment

Source: SPONGE RUBBER PRODUCTS CO.
130A Derby Place, Shelton, Conn.



The company offers its material Texlite, a mass of rubberized interlaced fibers of either hair or wool or a combination of the two, to safely package delicate instruments and equipment against breakage in handling and transit. The material is available in 51 by 60 in. sheets measuring ¾, 1, 1½ and 2 in. in thickness or multiples of these thicknesses. It also is available in die-cut shapes to conform to equipment outline. It has excellent aging ability, can be used repeatedly. It is resistant to attack by moisture and vermin and is fungus proof. Density range is 1½ to 5 lb. per cubic foot. The company has established a laboratory to make test applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5966 if you write the maker

BREVITY—Identify by IEN - 5967 if you write the maker

SPEED HAND-LABELING ON HARD-TO-LABEL JOBS with Mystik Self-Stik LABELS

SPEED PRODUCTION—No moistening. Stick instantly.

EASY APPLICATION on hard-to-reach, hard-to-label surfaces.

FLEXIBLE and stretchable for curved or uneven surfaces.

PERMANENT—Resistant to stain, moisture, scuffing, delamination. Removable, if desired, without staining.

BEAUTIFUL—Finest color printing; die-cut; embossed; varnished or acetate laminated.

The outstanding qualities of MYSTIK LABELS are due to rubber-saturated stock and the strongly bonded rubber adhesive, providing strength, flexibility, toughness, strong adhesion and ease of handling. Write for full information and samples.

CHICAGO SHOW PRINTING COMPANY
CHICAGO • NEW YORK
2644 NORTH KILDARE • CHICAGO 39

BREVITY—Identify by IEN - 5968 if you write the maker

HARD-TO-HANDLE LIQUIDS ARE "DUCK SOUP" FOR A KINNEY PUMP!

If you're working with a viscous, hard-to-pump material — whether it's molasses, cup grease, soap, asphalt, white lead, or what have you — you'll find Kinney SD Pumps ready-made for your service.

1 — Kinney SD Pumps are positive displacement pumps of high volumetric efficiency.
2 — Kinney SD Pumps have no valves, valve seats, springs, gaskets.
3 — Kinney SD Pumps have large, unobstructed suction and discharge openings.
4 — Kinney SD Pumps, in a wide range of sizes, are available steam-jacketed.
5 — Kinney SD Pumps are ruggedly built to give long and reliable service.

Write for Bulletin L48.

KINNEY MANUFACTURING CO.
3564 Washington St., Boston 30, Mass.
New York • Chicago • Cleveland
Houston • New Orleans • Philadelphia
Los Angeles • San Francisco • Seattle
and foreign countries.

Kinney LIQUID PUMPS

BREVITY—Identify by IEN - 5969 if you write the maker

Important Reading

yours just for the asking!

Our own publication . . . just off the presses! 32 pages jampacked with news and photographs of more than 50 new products, and articles of technical and general interest. We'd like you to have a copy: we think you'll find it interesting reading.

SEND FOR IT NOW!

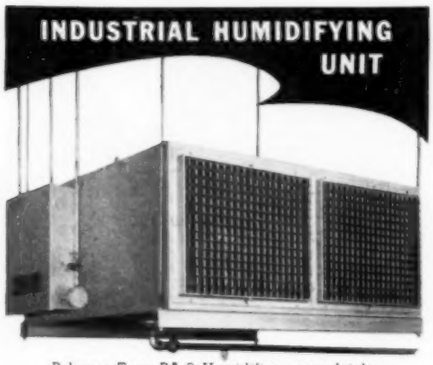
THE EMIL GREINER COMPANY
20-26 North Moore Street, New York 13, N. Y.
Please send me LABITEMS

Firm
Address
City Zone State
Attention of Name Title

The EMIL GREINER Co.

BREVITY—Identify by IEN - 5970 if you write the maker

INDUSTRIAL HUMIDIFYING UNIT

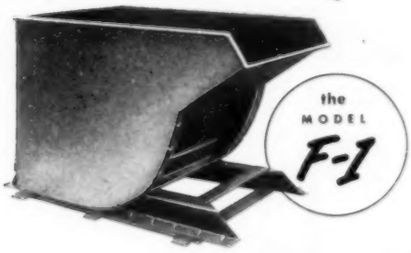


Bahnson Type BA-2 Humidifier completely self contained, including fans, motors, humidifiers, 4-way adjustable grilles, and automatic humidity control. Requires only power supply line, water supply and drain lines for installation. Eliminators remove excess free moisture. Delivers approximately 4000 CFM and evaporates up to 10 GPH.

The Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

BREVITY—Identify by IEN - 5971 if you write the maker

Here's the Answer to BULK MATERIAL HANDLING PROBLEMS



Phillips "Skid-Dump"

Bulk materials of all kinds are handled with maximum efficiency at minimum cost . . . with the Model F-1 "Skid-Dump." Used with pallet or fork lift truck, it automatically dumps and returns to original position. Smooth, rolled edges of 3/16" steel plate, welded undercarriage provide safety, long-life, strength and durability. Capacity—1 cu. yd.

Write for Bulletin E-15

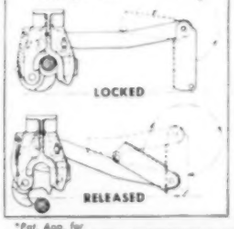
Heaviest materials easily handled with pallet truck.

Automatically dumps materials, returns and locks in original position.

Conveniently stacked, empty or full.

New Safety Lock*

Provides maximum safety for operator—prevents accidental dumping of load.



*Pat. App. for

MANUFACTURERS SINCE 1883 PHILLIPS PITTSBURGH, PA.

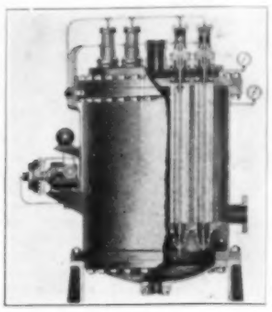
MATERIALS HANDLING EQUIPMENT

2300 JANE STREET · PITTSBURGH 3, PA.

BREVITY—Identify by IEN - 5973 if you write the maker

FILTERING . . Shell and tube unit for chemicals, automatic backwash

Source: R. P. ADAMS CO.
219 E. Park Drive, Buffalo 17, N. Y.



Model ACF is a new assembly of the company's cylindrical Pore-Stone filtering elements in a steel housing between tube sheets that divide the housing and head into three chambers. These are inlet at the top, filtered liquid in the center and back-wash outlet at the bottom. Each tube is equipped with valve ports top and bottom and with a valve stem terminating at the top in a piston that operates in a vertical pneumatic cylinder. The cylinders connect through individual tubes to a motor-driven sequence valve at the side of the housing.

Overall dimensions are 3½ ft. in diameter and 8 ft. in height. The standard unit has 70 sq. ft. of filter surface and is designed for 6-in., 125-lb. standard flanged pipe connection with inlet at the top, filtrate outlet in the side and back-wash outlet at the bottom.

Normal flow is into the cylindrical elements at the top and out through their walls to the filtered-liquid compartment. This holds for all but one tube at a time, which is closed at the top and opened at the bottom by upward movement of the valve stem when air pressure is applied at 100 lb. or more through the sequence valve. This interval is from 1½ to 2 seconds when the tube being back washed is returned to the line and the next one is opened for back-wash.

The back-wash cycle continues through an overall adjustable interval between 4 and 20 minutes. Back-wash action is by pressure on the outlet side of the filter which calls for 25 lb. or more in the filtered liquid. The bottom back-wash outlet connects to equipment to reclaim the liquid or the solids if this is advisable.

Bulletin 810, 20 pages, presents illustrated and detail description with instructions for installation and operation.

BREVITY—Identify by IEN - 5974 if you write the maker

ELEVATOR . . Laboratory platform moves vertically by hand through 7 in.

Source: FISHER SCIENTIFIC CO.
715-19 Forbes St., Pittsburgh 19, Pa.

Lab-Lift is a new screw-equipped platform unit on which to mount heavy or hot laboratory equipment. It has provision for adjustment between 11½ and 18½ in. above the base by turning a capstan-equipped screw. A vertical rod extends upward from the base through a clearance hole in the platform top to keep it from turning. A second upright in the top provides anchorage for laboratory apparatus.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5975 if you write the maker

Drill Hardened Steels without Annealing—

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—
With "HARDSTEEL"

BLACK DRILL COMPANY
Division Black Industries
1378 East 222nd St. • Cleveland 17, Ohio

Also makers of—
BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

BREVITY—Identify by IEN - 5976 if you write the maker

gives any voltage from 0 to 2500, plugs into 115-volt a-c outlet

This compact tester has a capacity of 750 watts—ample for a-c insulation testing of motors up to 600 hp, transformers and other equipment of similar size. Highly accurate. Quick and easy to use. Weighs only 47 pounds. Includes 15-foot shielded test leads and 15-foot cord for plugging into 115-volt outlet. Available for 25, 50 or 60 cycles. Bulletin GEC-612 contains details. For a free copy, address *General Electric Company, Schenectady, N. Y.*

GENERAL ELECTRIC

BREVITY—Identify by IEN - 5977 if you write the maker

SAVE TIME WITH ELECTRONIC AMPLICALL
THE BETTER BUSINESS INTERCOM SYSTEM

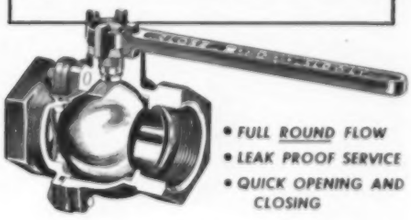
SEE YOUR CLASSIFIED PHONE BOOK under "Intercommunication" for your local AMPLICALL specialist, or write us direct

Here's the way to gear up for increased output! AMPLICALL 2-second speech contact between all departments saves time—cuts costs—measurably increases plant and office efficiency. AMPLICALL keeps personnel on the job every working minute—*gets more work done for every operations dollar spent*—pays for itself quickly! Get the full details on fast-action AMPLICALL *today*.

Electronics is our business
SOUND EQUIPMENT Rauland INTER-COMMUNICATION
RAULAND-BORG CORPORATION • 3533-K ADDISON ST., CHICAGO 18, ILL.

BREVITY—Identify by IEN - 5978 if you write the maker

REDUCE VALVE MAINTENANCE COST!



- FULL ROUND FLOW
- LEAK PROOF SERVICE
- QUICK OPENING AND CLOSING

ROCKWOOD Ball VALVES

have already made, in various types of industries, an outstanding record for longer, dependable, efficient performance.

The full round flow, leak proof service, quick opening and closing and no maintenance features make Rockwood Ball Valves your best valve buy on the market. These remarkable engineering features will give efficient and economical operations thru years of everyday rugged use. Together, they help increase your profits and reduce your maintenance cost. Available in all pipe sizes from ½" to 4".

Write for illustrated folder V-4.

ROCKWOOD SPRINKLER CO.
WORCESTER MASS.

BREVITY—Identify by IEN - 5979 if you write the maker

many a year of free storage in NEFF & FRY BINS

• Long after the original cost has been written off, Neff & Fry Bins continue to give unimpaired service for an indefinite period *with scarcely any maintenance expense.* That's what we mean by "free storage."

The distinguishing feature of a Neff & Fry Bin is the diagonally pointed Super-Concrete Stave . . . almost as hard and dense as rock because formed under 140 tons hydraulic pressure.

Super-Concrete Staves do not spall. Consequently, a Neff & Fry Bin never needs a face-lifting job. And, of course, Super-Concrete Staves don't rust, rot, shrink, buckle, or burn.

All sorts of flowable bulk materials are handled and stored in Neff & Fry Bins. The photograph shows a pair of 18' x 20' bins used for boiler-room coal.

If you are immediately or remotely interested in silo-type storage, ask us for literature and specific information.

THE NEFF & FRY CO. • 114 Elm Street Camden, Ohio

BREVITY—Identify by IEN - 5980 if you write the maker

Specifically Designed **for WATER PRESSURE CONTROL**

For over 50 years, Golden-Anderson has specialized in designing and manufacturing pressure control valves. The patented air and water cushioning feature effectively prevents any bang or hammer.

May our experienced engineers help you with your water pressure control problem?

GOLDEN ANDERSON *Valve Specialty Company*

2079 KEENAN BUILDING • PITTSBURGH 22, PA.

BREVITY—Identify by IEN - 5981 if you write the maker

New Bulletin

CONTAINS IMPORTANT DATA TO INCREASE PERFORMANCE AND LOWER COSTS OF ELECTRICALLY-OPERATED MACHINES AND EQUIPMENT

STABILINE

AUTOMATIC VOLTAGE REGULATORS

Request your copy of Bulletin 5351 today. Complete with application information, ratings, circuit diagrams, dimensions and engineering-design data on EM (Electro Mechanical) and IE (Instantaneous Electronic) models of standard STABILINE Automatic Voltage Regulators.

THE SUPERIOR ELECTRIC CO. BRISTOL, CONNECTICUT

MAIL TO 1206 CHURCH STREET, BRISTOL, CONN.

NAME _____ TITLE _____

COMPANY _____

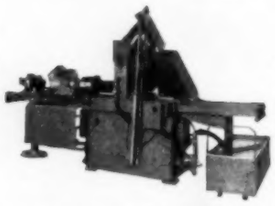
CO. ADDRESS _____

CITY _____ ZONE _____ STATE _____

BREVITY—Identify by IEN - 5982 if you write the maker

CUTTING . . Abrasive disc machine rotates disc and work, rates to 18 in.

Source: AMERICAN CHAIN & CABLE CO. 927-31 Connecticut Ave., Bridgeport 2, Conn.



Abrasive discs from 16 to 20 in. in diameter mount between 5-in. flanges on the ball-bearing spindle of this new Model-508 wet abrasive-cutting machine. The spindle is belt connected to a 15-hp. motor for rotating drive and is geared to a 1-hp. motor for oscillating movement. Forward feed movement and retraction is by hydraulic pressure supplied by a ½-hp. motor-driven pump. A ¼-hp. motor-driven coolant pump provides circulation between the disc and a caster-mounted tank that locates at one end of the machine. Overall dimensions are 245 by 61 by about 76 inches. Weight is 6,800 lb. and capacity is for bar stock and tubing to 8 in. in diameter.

BREVITY—Identify by IEN - 5983 if you write the maker

LAPPING . . Diamond compound, wheel, applicator, for carbide tools

Source: ELGIN NATIONAL WATCH CO. 105-9 National St., Elgin, Ill.

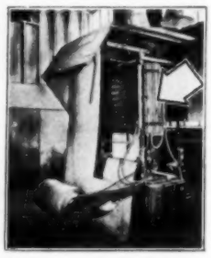
Sufficient for 500 applications

Five grams of the company's Dymo diamond lapping compound, previously described IEN-5738-49, are included in a new carbide conservation kit with a 6-in. Formica lapping wheel and an applicator gun with which to charge the wheel. The kit is intended for use on single-point carbide-tipped tools to keep the cutting edges in good condition.

BREVITY—Identify by IEN - 5984 if you write the maker

DRYING . . Infra-red elements to dry coating on abrasive cloth

Source: EDWIN L. WIEGAND CO. 7505 Thomas Blvd., Pittsburgh 8, Pa.



New application of the company's electric radiant heaters forms part of the assembly of a machine employed to dry the coating on abrasive cloth while the cloth is moving forward at a steady rate of 8 fpm. There are nine heaters each on the front and back and three on each side to enclose the 27-in. width of the cloth. Power rating is 1,400 watts for each heater. All are operated on 220 volts by employing pairs in series on a 440-volt circuit. Total installed capacity is 33.6 kw. Volatile gases issuing from the cloth in the course of drying are exhausted through a hood in the top of the assembly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 5985 if you write the maker

TIPS by the dozen on a sure thing!

WW WEIGER-WEED

Send for this free booklet of latest information on Resistance Welding.

SPOT WELDING TIPS

Resistance Welding knows this symbol. In shops small and large, it means dependability in Tips for sound, clean welds—efficient cooling—speedy welding—long tip life—less down time—welding at a saving!

WW Tips are made of alloys of the correct physical and electrical properties, and they are precision-machined, water-tight and electrically tight fitting.

Replaceable tips, both straight and offset, WW leak-proof holders, seam welding wheels, electrodes, dies and special alloys are available in standard sizes which you will find in the WW Catalog "Standard Replaceable Welding Tips—Standard Water-Cooled Holders." Weiger-Weed & Company, Division of Fansteel Metallurgical Corporation, 11644 Cloverdale Avenue, Detroit 4, Michigan.

WEIGER-WEED 12801-D

Resistance Welding ELECTRODES

DIES • TIPS • WHEELS • HOLDERS

BREVITY—Identify by IEN - 5986 if you write the maker

BREVITY—Identify by IEN - 5987 if you write the maker

NATIONAL ELECTRIC SURFACEDUCT

The ALL-PURPOSE Electrical Raceway

FOR

Electrical Modernization . . .

Flexible Lighting Layouts . . .

Wiring Extensions, Additions and Relocations

All NE Surface Raceways are two-piece base and capping with the famous "lay-in" principle that saves time and money. Simply attach the base, lay-in the wires, snap on the cover. No fishing required. Convenient, simple, quick.

SURFACEDUCT provides instant accessibility to circuit wires for installation of outlets anywhere along the raceway. Interconnectable with other systems. Serves every electrical requirement up to 60 ampere loads with a minimum of fittings.

Use **SURFACEDUCT** for feeder and distribution systems . . . commercial and factory lighting . . . assembly lines, laboratories, work-benches . . . rewiring existing plants. Write for Free Catalog.

Listed by Underwriters' Laboratories, Inc.

EVERYTHING IN WIRING POINTS TO

National Electric PRODUCTS CORPORATION

1352 CHAMBER OF COMMERCE BLDG. PITTSBURGH 19, PA.

▼ BREVITY—Identify by IEN - 5989 if you write the maker ▼

"COMMERCIAL"

Purchasing agents and designers can avoid costly tools and dies by getting a Commercial "Shape Book".

This Booklet shows a number of circular shapes that can be economically used in designs in various articles, and will show a reduction in costs, make easier assembly but increase the mechanical advantages.

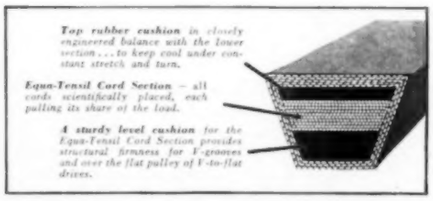
Write for the Shape Book — no tool or die charges for these standard shapes.

THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

▼ BREVITY—Identify by IEN - 5990 if you write the maker ▼

You can stretch a **V-BELT** just so far... and we do it!

THE CORDS in every U. S. Rubber V-Belt have had their stretch worked out by mechanical means. These cords are placed over sheaves of prescribed diameters and at controlled tensions, which insures minimum stretch in the finished belts. Enough elasticity is retained in the cords to enable the belt to withstand severe shock loads, yet permanent stretch is held to a minimum. To reduce any functional heat generated by constant flexing, and to get maximum adhesion between the component parts of the belt, the cords are treated with latex. Of course, each belt has that unique development which provides efficient pull and strength under diverse operations—the Equa-Tensil Cord Section. Protective jackets increase the grip while keeping out the dirt and prolonging wear. Order from your jobber, or for more information write to address below.



MULTIPLE V-BELTS • F. H. P. BELTS • FAN BELTS
FARM IMPLEMENT BELTS • SPECIAL PURPOSE BELTS

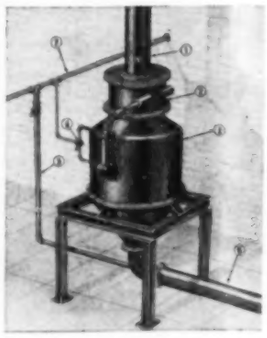
PRODUCTS OF U.S. RUBBER SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
MECHANICAL GOODS DIVISION • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

▼ BREVITY—Identify by IEN - 5992 if you write the maker ▼

CONVEYING . . Pneumatic equipment for dry granular materials in batches

Source: BRADY CONVEYOR CORP.
18-22 W. Jackson Blvd., Chicago 4, Ill.



The company announces general availability to specification of its Flo-Veyor pneumatic conveying equipment. Dry granular materials are aerated and then carried in a flow of air through a pipe line that can travel horizontally, upward, downward or around corners to points of storage or use.

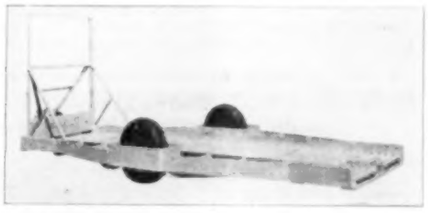
The material to be conveyed is introduced into the main housing through a top inlet from an overhead storage when an air-operated gate is opened. As soon as the housing is full this gate is closed and compressed air for aerating and for conveying is introduced into the bottom of the housing. The airborne material then moves out through the bottom connection until the batch has been delivered.

Operating range is between 10 and 100 pounds. Controls are available as specified and the equipment itself is subject to specification for the material to be handled, the distances and directions to be traveled and the quantities involved.

▼ BREVITY—Identify by IEN - 5993 if you write the maker ▼

TRUCKS . . Roller bed trailer handles crated loads from assembly line

Source: KILBOURNE & JACOBS MFG. CO.
N. Fourth & Lincoln Sts., Columbus 8, Ohio



Typical assembly in a new design of roller-bed trailer is shown in the illustration. The unit is available to specification. It is intended to handle crated products between the end of an assembly line and a warehouse. The roller bed slants to skid cargo on from a line. Load weight tips the bed to horizontal position for travel. A lock prevents shifting. When the lock is released and the trailer bed is tilted back the cargo rolls off.

The assembly illustrated rates about 4,000 lb. at 10 mph. It can be handled at speeds to 30 mph. with a lighter load. This particular unit measures about 15½ ft. in length including the tractor coupler. Its bed is 3 ft. in load width. Overall width of the new unit is about 5 feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 5994 if you write the maker ▼

ILLINOIS DIE FILING MACHINE

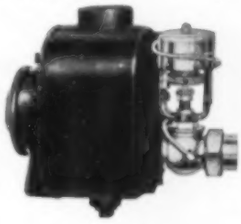
An accurate, smoothly-operating machine that files, saws and stones the most intricate die shapes . . . eliminates tedious hand operations . . . reduces costs. It is quality-built for long, trouble-free service . . . hardened and ground shafts running in bronze bushings minimize wear. The holding chuck and clamping device provide perfect file alignment.

Write for descriptive literature

ILLINOIS TOOL WORKS
2501 N. Keeler Ave. • Chicago 39, Ill.
MANUFACTURERS OF METAL CUTTING TOOLS AND SHAKEPROOF PRODUCTS

▼ BREVITY—Identify by IEN - 5995 if you write the maker ▼

CONSTANT TEMPERATURE HOT WATER



with Sylphon No. 902 AUTOMATIC Hot-Cold Water Mixer

• Uses hot water from any storage tank or instantaneous water heater. Regulates amount of cold water required to temper it to desired degree. Constant temperature maintained, even if supply water temperature or pressure fluctuates. Automatic shut-off if either hot or cold water supply fails—automatic start-up when supply returns. Ideal for industrial processes, showers, lavatories, etc. Used in factories, hospitals, hotels, schools, etc. Write for Catalog LN-A.

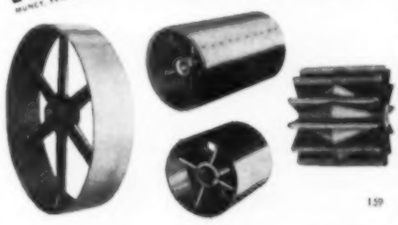
FULTON SYLPHON DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • KNOXVILLE 4, TENN.
Temperature Controls • Bellows Devices • Bellows Assemblies
Canadian Representatives, Darling Brothers, Montreal

▼ BREVITY—Identify by IEN - 5996 if you write the maker ▼

SPROUT WALDRON S/W MUNCY, PENNSYLVANIA

PULLEYS

SOLID FACE and BELT SAVER



In handling rough, abrasive materials, S/W exclusive Belt Saver Pulleys are lengthening belt life as much as 400%. Equally well recognized is the S/W Blue Face Pulley Line in standard and made-to-order types and sizes. Write today for literature. Sprout-Waldron & Co., Inc., 5 Waldron Street, Muncy, Penna.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

SPROUT-WALDRON

▼ BREVITY—Identify by IEN - 5997 if you write the maker ▼

BRONZE?
COPPER?
Aluminum?
brass?
stainless?
MONEL?

which alloy for your fastenings?

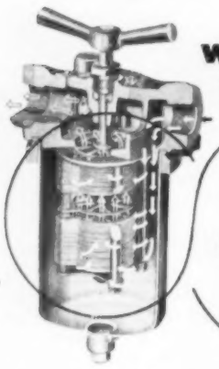
Harper knows because Harper specializes in them ALL . . . and whether your problem is corrosion, abrasion, heat, stress, appearance or a combination of these, Harper has met it before through many years of service to all industries. Over 7,000 items . . . bolts, screws, nuts, rivets and accessories . . . in stock ready for delivery from warehouses and distributors coast to coast. Mail coupon for details and free copy of Corrosion Resistance Computer.

The H. M. Harper Co.
8211 Lehigh Ave., Morton Grove, Ill.
Rush my copy of free Corrosion Resistance Computer.
Name.....
Address.....
City..... State.....

HARPER EVERLASTING FASTENINGS

Specialists in ALL non-corrosive metals

BREVITY—Identify by IEN - 5998 if you write the maker



WHAT FLUID STRAINER

is non-stopping (A) and is permanent (B) and handles full flow (C) and guarantees performance (D)?

A. Cuno AUTO-KLEAN is continuously-cleanable, manually or automatically, without stopping flow

B. Cuno AUTO-KLEAN is all-metal, disc-type, non-collapsible

C. Cuno AUTO-KLEAN can handle full flow—a few to more than 4000 gpm—in same space as usual partial-flow type

D. Cuno AUTO-KLEAN will remove all particles larger than specified—from .0035 in. to .062 in.

CUNO

Fluid Conditioning

Removes More Sizes of Solids from More Types of Fluids

Widely used on lubricating, hydraulic and fuel oils, water, and all industrial fluids.

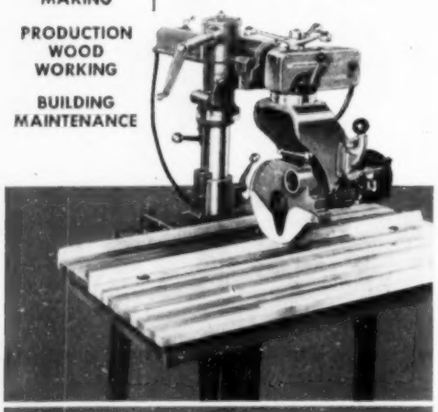
For free booklet on fluid straining, address Cuno Engineering Corp., 695 South Vine Street, Meriden, Connecticut.

BREVITY—Identify by IEN - 5999 if you write the maker

CUTS YOUR COSTS

PACKING and SHIPPING
PATTERN MAKING
PRODUCTION WOOD WORKING
BUILDING MAINTENANCE

on all these operations



WALKER-TURNER "900" RADIAL SAW

13 Power Tools in One!

Big Capacity—3¼" deep cut with 9" blade
Precise Controls—quick, easy on operator
New Type guard—for ripping, gives extra protection
Exclusive direct-geared motor—minimizes power demand
Feather-touch feed—has constant repeat-cut accuracy
Full work-visibility

SOLD ONLY THROUGH AUTHORIZED DEALERS

WALKER-TURNER
• DIVISION •
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

See your distributor or mail coupon for bulletin

DRILL PRESSES • JOINTERS • TABLE SAWS • BAND SAWS • BELT and DISC SURFACERS • JIG SAWS • RADIAL SAWS • LATHES • TILTING ARBOR SAWS

WALKER-TURNER DIVISION
Kearney & Trecker Corp., Dept. IE-5, Plainfield, N. J.
Please send me the new Walker-Turner "900" Radial Saw Bulletin.

Name _____
Address _____
City _____ State _____

BREVITY—Identify by IEN - 6001 if you write the maker

PRINTING . . Electrostatic equipment makes offset paper duplicating masters

Source: HALOID CO.
47 Haloid St., Rochester 3, N. Y.

New equipment consisting of a camera, a copier and a fuser, under the trade name XeroX, have been developed to implement the company's electrostatic dry-printing process, previously described IEN-1183-48. Anything written, typed or drawn on one or both sides of a sheet can be copied or duplicated in sizes to 8½ by 13 inches. Powders are used in connection with electrostatically-charged plates and sheets in dry operation. Copies can be produced in about two minutes for use as masters for duplicating purposes.

Bulletin, 6 pages, "XeroX Copying Equipment," presents illustrated description of the equipment and the process including a diagram presentation of the manner in which Xerography operates to produce master copies.

BREVITY—Identify by IEN - 6002 if you write the maker

INSULATING . . Pressure snubber protects gage against shock loading

Source: MICRO METALLIC CORP.
28-32 Sea Cliff Ave., Glen Cove, N. Y.

Available for specified flow

Porous element made of stainless steel assembles into a brass or stainless-steel fitting having threads to connect into the line leading to a pressure gage. The element delays flow rate of liquid or gas to prevent shock loading the gage. An element with flow of 5 cc. of air per min. at 10-lb. differential measures 1¼ in. in diameter by 1 in. in length.

BREVITY—Identify by IEN - 6003 if you write the maker

ROCK DRILLING . . Electric hammer to drill concrete, clean, chip, scale

Source: SKILSAW INC.
5039 Elston Ave., Chicago 30, Ill.

Magnetic coils, alternately energized, provide the driving power for this new portable electric hammer to strike 3,600 blows per minute. The hammer takes ¾ to 1⅛-in. star drills, can be extended to drive a 1½-in. drill. It measures 16¼ in. in length and weighs 20 pounds.

Connection is made to a 110-volt ac. power source through a 15-ft. length of rubber-covered extension cord and plug. Standard equipment includes three star drills and the required chucks. List price for the illustrated Model 437 is $175.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6004 if you write the maker

ELWELL-PARKER Power Trucks are kept busy 24 hours a day at a prominent grain mill because they make savings like these:—

30% LESS LABOR—E-P trucks have freed almost one-third of men doing handling for more productive work . . .

SPACE SAVED—High stacking loads on pallets has converted costly floor space from square feet to cubic feet . .

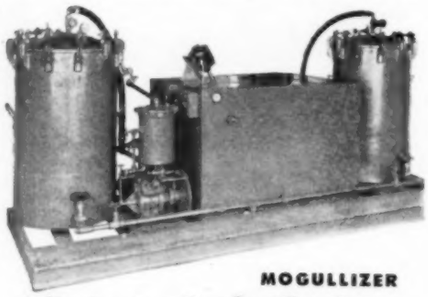
PALLETS RETRIEVED—In boxcar loading, *specially engineered* E-P attachment pushes bags off and withdraws pallet for re-use.

Millions of bags in all industries are shipped, handled and rehandled each year. IS YOUR BAG HANDLING MECHANIZED?

Write for Free Bulletin on Scientific Materials Handling.

THE ELWELL-PARKER ELECTRIC COMPANY
4062 St. Clair Avenue • Cleveland 3, Ohio

BREVITY—Identify by IEN - 6005 if you write the maker



MOGULLIZER

Eliminates Leaky Castings

If your contract calls for impregnation, or if your production castings leak or weep and will not hold pressure, investigate our Mogullizing system—a high vacuum and pressure method of sealing castings. Models to meet your requirements.

Any standard impregnating material can be used but for top efficiency we recommend our Mogul Cast Seal.

Prompt deliveries.

Write today for full details on the Mogullizing system.

METALLIZING COMPANY OF AMERICA
3520 W. Carroll Avenue • Chicago 24, Ill.

BREVITY—Identify by IEN - 6006 if you write the maker

NO MORE CARBON SCRAPING

*DUNK AND DRIER BASKET INCLUDED

Nothing Decarbonizes and Cleans CARBURETORS, FUEL PUMPS, PARTS Like..

U. S. PAT. #2310862
GUNK DUNK BENCH Carburetor and Parts Cleaning Kit. New 6½ gal. size deep "Vapor-catcher" design pail.

New—Improved—More Potent*

GUNK HYDRO-SEAL

*1. Faster . . . Terrific penetration . . . new improved odor.
2. Quickly digests and removes carbon gum, paint, lead, makes possible accurate visual inspection and fitting of delicate metering mechanisms, jets, orifices and diesel nozzles . . . without etching.
3. Lasts more than one year . . . due to water blanket.
4. Works hot or cold . . . Rinses wet or dry.
5. Patented Double Barrel Performance Guaranteed.

A WORD OF CAUTION
If it doesn't bear the Genuine GUNK trademark, it may be a partly diluted imitation—and will not give you the Safety and Advantages of Genuine GUNK and should be flatly refused.

SOLD BY BETTER JOBBERS EVERYWHERE
Write for Name of Nearest Stocking Jobber
— Flatly Refuse Substitute Imitations —

IMMEDIATE DELIVERY 1 GALLON OR A TANK CAR

CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

BREVITY—Identify by IEN - 6007 if you write the maker

Clamp Most Anything WITH "Aero-Seal"

WORM-DRIVE CLAMPS

- Hold odd-shaped connections
- Hold multiple pipes or ducts
- Conforms to any shape
- No distortion — no crimping
- Vibration proof . . . no parts to lose or loosen
- Use again and again
- Made in any length
- All stainless steel bands at no extra cost

ANOTHER BREEZE MARK PRODUCT

WRITE TODAY FOR FREE SAMPLE!

"Aero-Seal" HOSE CLAMPS

AERO-SEAL Worm Drive Never Works Loose

BREEZE CORPORATIONS, INC.
32 South Sixth Street Newark, N. J.

BREVITY—Identify by IEN - 6008 if you write the maker

REALOCK

PROTECTION PLUS

- All fittings, hinges and locking devices have bolts *on the inside*, secure from tampering.
- Heavily galvanized by a special process, Realock Fence is weather-resistant, extra strong and durable...costs little or nothing for maintenance. Supplied only with malleable base with pressed steel arms (inset) in the East.

For complete details refer to Sweet's Catalog. For free estimate consult your classified telephone directory—or write direct.

REALOCK FENCE CF&I

WICKWIRE SPENCER STEEL DIVISION 361 Delaware Ave., Buffalo 2, N.Y.
THE COLORADO FUEL & IRON CORP. Continental Oil Bldg., Denver 2, Col.
THE CALIFORNIA WIRE CLOTH CORP. 1000 - 19th Avenue, Oakland 6, California
BRANCHES & DISTRIBUTORS IN KEY CITIES EVERYWHERE

BREVITY—Identify by IEN - 6009 if you write the maker

Raybestos-Manhattan not only makes packings for centrifugal pumps like this, but for rotary and reciprocating pumps, compressors, valves, engines, hydraulic rams, and practically every other type of fluid handling or fluid-actuated equipment. See your nearby R/M distributor. Or write today for the new R/M Catalog.

R/M **PACKINGS**

RAYBESTOS-MANHATTAN, INC.
PACKING DIVISION, MANHEIM, PA.

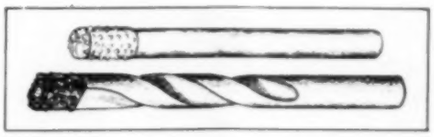
FACTORIES: Bridgeport, Conn.: Manheim, Pa.: No. Charleston, S.C.: Passaic, N.J.

RAYBESTOS-MANHATTAN, INC. Manufacturers of Packings • Asbestos Textiles Mechanical Rubber Products • Abrasive and Diamond Wheels • Rubber Covered Equipment • Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Powdered Metal Products • Bowling Balls

BREVITY—Identify by IEN - 6011 if you write the maker

DRILLING . . Diamond tipped tools for glass, porcelain, quartz, carbides

Source: STEELSET DIAMOND PRODUCTS
234 E. 45th St., New York 17, N. Y.



Nominal diameters range from 1/8 to 1/4 in. in two new lines of diamond-tipped drilling tools for application in hard materials. One of the tools carries an off-center hole through its shank to the forward face to feed coolant under pressure. The other one is made with twist flutes and has a diamond located as a center point in the end. This second tool is for dry drilling in small holes or for wet submerged drilling. Operating speed is 10,000 to 15,000 rpm. in sizes to 1/8 in. and about 4,800 rpm. in the larger units.

BREVITY—Identify by IEN - 6012 if you write the maker

STORING . . Filing cabinet for tabulating cards, made of wood

Source: REMINGTON RAND INC.
315 Fourth Ave., Room 1618, New York 10, N. Y.

Conserves vital defense materials

Perma-Wood designates new wood cabinet assembly of 7-ply reinforced sides, back and top, rabbeted cross braces front and rear, a center upright and birch tray runners glued and secured by screws to the sides of the uprights. Tray backs are tongue and groove and have rounded edges. Each tray includes a follower plate.

Overall dimensions are 19 3/4 by 28 by 51 inches. Capacity is 20 trays, 10 high and 2 wide. The trays measure 4 1/8 by 8 5/8 and have 23 5/8 in. of clear filing depth. Capacity per tray in the new cabinet is 3,545 cards.

BREVITY—Identify by IEN - 6013 if you write the maker

SEALING . . Self-adhesive tape, transparent acetate fibre for cartons

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.

No. 711 "Scotch" brand is a new self-adhesive transparent acetate-fibre tape to seal a carton's inner liner and outer seams and also to cover and protect labels that have been applied on the carton. The tape will stand up under shock and rough handling and in contact with water. It will not loosen in humid, dry, hot or freezing temperatures. It is Government proved for specification No. JAN-P-127, Type 3 and 4, Grade B and C, for sealing V3 cartons and for specification No. ANT-12A-T2, GA and B for sealing W cartons. Sizes range from 1/4 to 6 in. in width in 72-yd. rolls. Greater widths can be specified to meet individual requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6014 if you write the maker

MET-L-WOOD

METAL BONDED TO PLYWOOD

Has Hundreds of Structural Uses in Modern Plants

To Name a Few:

- Walls and Partitions
- Doors
- Counters and Shelves
- Traffic Panels
- Truck Bodies (Patented "Ribless" Construction)
- Truck Body Panels
- X-Ray Rooms
- Moisture-Vapor-Proof Rooms and Containers
- Decorative Finishes

Met-L-Wood stock panels and prefabricated units are a challenge to modern industrial engineers and designers because of their multiple possibilities in economical, structurally-sound designs in hundreds of varied uses. Best start toward thinking in terms of Met-L-Wood design opportunities is to send for the Bulletin described below . . . Met-L-Wood Engineering Service is available without obligation on specific problems.

SEND FOR THIS BULLETIN ON MET-L-WOOD USES AND ADVANTAGES

Quick facts, with illustrations and diagrams on Met-L-Wood applications, types, possibilities. Sent without obligation on request.

Met-L-Wood is metal bonded to plywood—permanently. Many metals, woods, thicknesses, shapes, finishes are available to meet YOUR requirements.

MET-L-WOOD CORPORATION
6755 West 65th Street • Chicago 38, Illinois
"Met-L-Wood . . . opening new horizons to structural designers"

BREVITY—Identify by IEN - 6015 if you write the maker

NEW 7½ lb. self-rotating hammer drill

Air-operated, the CP-9 drills holes in masonry, concrete and stone to 1 1/4" diameter, doing same work as non-rotating tools of triple its weight. 14 3/4" long; readily operated by one hand, even for up-drilling. Steels can be changed quickly; it also handles non-rotating chisels. A marvelous drill for plumbers, electricians, builders, maintenance crews. Write for copy of SP-3016.

CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 48th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

BREVITY—Identify by IEN - 6016 if you write the maker

Let this all-purpose DEWALT save money in *Your* plant

Here is the ideal, all-purpose machine you need to cut costs and step up production in your plant. DeWalt is *many* machines in one! It dadoes, routs, shapes, tenons, grinds, sands, etc.! It's fast, accurate, safe, dependable. It takes up little floor space—and streamlines all your cutting operations. Write for catalog. DeWalt, Inc., Dept. HE6, Fountain Ave., Lancaster, Penna.

DEWALT INC.
A subsidiary of American Machine and Foundry Co.

BREVITY—Identify by IEN - 6017 if you write the maker

WHITNEY ROLLER CHAIN *Flexible Couplings*

FOR YOUR DIRECT POWER DRIVE APPLICATIONS

Whitney Roller Chain Flexible Couplings offer the equipment manufacturer and machine user a practical and efficient unit for connecting power equipment to direct drives. All steel construction . . . precision roller chain and hardened cut tooth sprockets provide positive operation . . . assure long life.

Check these Whitney Flexible Coupling features, easily installed, allows for motor end float, disconnects without removing shafts or bearings, allows for slight shaft misalignment.

You can use Whitney Flexible Couplings wherever a positive yet flexible direct drive is required. Write for information.

WHITNEY CHAIN COMPANY
202 Hamilton Street Hartford 2, Connecticut

BREVITY—Identify by IEN - 6018 if you write the maker

Here's BIG HELP IN TERMINAL WIRING!

The correct wire to correct terminal every time!

The New JONES FANNING STRIP

Connections are made through Fanning Strip, on bench or anywhere apart from barrier strip, and quickly slipped into assembly.

Designed for use with Jones Barrier Terminal Strips Nos. 141 and 142, for 1 to 20 terminals.

9-141 Barrier Strip

Simplifies and facilitates soldering. Insures positive correct connections. Saves time. Ideal for harness or cable assembly. Strong construction: Brass terminals, cadmium plated. Heavy bakelite mounting.

9-161 Fanning Strip. Pat. applied for.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION CINCH MANUFACTURING CORPORATION CHICAGO 24, ILLINOIS SUBSIDIARY OF UNITED CARR FASTENER CORP.

BREVITY—Identify by IEN - 6019 if you write the maker

ELLIOTT TWIN STRAINERS TYPE "A"

The valve seats have a "windshield wiper"

As the valve disc moves across the seat to the closed position, a rubber ring inset in the disc brushes off all foreign or fibrous matter which could otherwise prevent perfect closing, or possibly score disc or seat... The rubber ring provides a wedged rubber-to-metal contact upon closing. It can easily be renewed without disconnecting the strainer from the line.

Get all the story. Write for the Type A Twin Strainer Bulletin.

SIZES FROM 1" UP—125 to 250 lb. PRESSURES

A-316

ELLIOTT COMPANY

Accessories Dept., JEANNETTE, PA. DISTRICT OFFICES IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 6020 if you write the maker

UNITABLE® BELT CONVEYOR

For Assembly - Inspection - Packaging

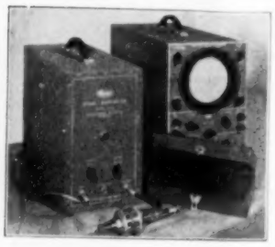
The most ADAPTABLE portable conveyor you can find. Exclusive "unitized" design 10' to 80' lengths. Write for UNITABLE Bulletin now.

CONVEYOR SPECIALTY COMPANY INC.
35 Newport Avenue
North Quincy 71, Mass.

BREVITY—Identify by IEN - 6021 if you write the maker

GAGE . . Electronic equipment reads static, dynamic displacement

Source: ELECTRO PRODUCTS LABORATORIES INC. 4503 N. Ravenswood Ave., Chicago 40, Ill.



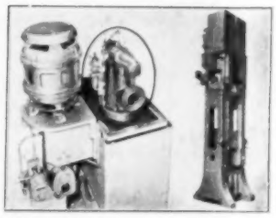
Dynamic or static displacement due to causes such as eccentricity, axial vibration, radial whip, bearing clearance, reciprocating action, or conditions such as radial expansion due to acceleration, can be measured without physical contact by this new Electro Dynamic Micrometer. It is a new design of similar equipment built by the company to read static and dynamic pressures, previously described IEN-11301-50.

The actuating element consists of a conventional mechanical micrometer head combined with a sensing unit that is moved toward or away from the object under test by adjusting the micrometer. Adjustment or calibration divisions of .0001 in. are provided. Change in reactance in the sensing element by minute change in relative position of the test body produces a small voltage drop. This is amplified and employed to produce a displacement-time curve on the screen of the oscilloscope forming a part of the assembly.

BREVITY—Identify by IEN - 6022 if you write the maker

PRESS . . Hydraulic machine with direct mounted pump and motor

Source: AMERICAN STEEL FOUNDRIES 1171 Tennessee Ave., Cincinnati 29, Ohio



Pipeless designates new line of hydraulic presses in which the motor-driven pumping equipment and tank-enclosed prefiller valve are mounted directly upon the press structure for flow through passages in the housing. Piping has been eliminated from the main hydraulic circuits. The only pipe remaining on the press is in the pilot line and the suction and drain lines. The two latter operate under low pressure where leakage is not a problem.

The power unit can be removed as a single assembly. The valve in the return tank also is removable as a unit. Assembly is on standard bolting and drilling layouts to provide flexibility in choice of pumping arrangement. Construction is available to specification for any types, sizes and capacities of press in the company's line.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
Note the suggestions in the index, page 106

BREVITY—Identify by IEN - 6023 if you write the maker

New METHOD KEEPS CONCRETE FLOORS SPICK AND SPAN

FOR EITHER OLD OR NEW CONCRETE

Cut maintenance time and expense for concrete floors with Multi-Clean Neo-Dry Concrete Sealer. Available in 7 attractive, permanent colors. Neo-Dry is a penetrating sealer, easily applied with brush or applicator. So fast-drying that two coats can be applied within an hour—floor will be ready for hard use in from one to two hours following second coat. Will not dust or chip, and is extremely resistant to abrasion, water, grease, alkalies, soaps, oils, acids.

MULTI-CLEAN® Method FOR EVERY FLOOR

There's a Multi-Clean Method for every type of floor—a carefully planned, thoroughly tested and proved procedure for floor maintenance. The Multi-Clean Method saves time and labor, combines the use of Multi-Clean Liquid Floor Chemicals and Floor Machines for better looking, longer lasting floors.

FREE—MULTI-CLEAN FLOOR MAINTENANCE MANUAL

Multi-Clean has prepared a complete series of maintenance manuals answering every floor problem. Write today and name your type of floor—address Multi-Clean Products, Inc., Dept. 31B, St. Paul 1, Minn., for a free copy.

MULTI-CLEAN PRODUCTS INC.

Custom Cleaning Chemicals
Floor and Rug Machines • Permanent Floor Finishes • Industrial Vacuums

BREVITY—Identify by IEN - 6024 if you write the maker

How You Save with the NEW Niagara Method of Air Conditioning

Using "HYGROL" Absorbent Liquid

Because it absorbs moisture from the air directly, the new Niagara Controlled Humidity Method uses less, or no, mechanical refrigeration for dehumidifying. You save first costs and installing of heavy machinery. You save space, maintenance expense, power; get easier, more convenient operation.

Using "Hygrol" absorbent liquid gives complete control of temperature and relative humidity. Especially, it is a better way to obtain dry air for drying processes, packaging hygroscopic materials, preventing moisture damage to metals, and obtaining better quality for chemical process and food products—or in obtaining better results in comfort air conditioning at lower refrigeration costs.

Filtered air is dehumidified by passing through a spray of "Hygrol" which removes airborne moisture. This liquid is non-corrosive; it contains no salts or solids to precipitate and cause maintenance troubles. It is continuously re-concentrated at the same rate at which it absorbs moisture, providing always the full capacity of the air conditioner, automatically.

Food Packaging under Controlled Humidity

Units provide a range of capacities from 1000 to 20,000 C. F. M. Multiple unit installations are in use successfully. Records of results are available. For further information, write Niagara Blower Co., Dept. EN, 405 Lexington Ave., New York 17, New York.

BREVITY—Identify by IEN - 6025 if you write the maker

ELIMINATE THE GREATEST FIRE HAZARD IN YOUR BUILDING

Model A

WITH ELSCO SAFETY ELEVATOR ROLLER GUIDES

They pay for themselves over a short period of time in electric current savings and economy of maintenance! Eliminate fire risk, safer ride, smoother ride!

A. Tests under a multitude of conditions indicate a savings in electric current of between 24% and 44%.

B. Hatchways no longer need constant cleaning to remove inflammable grease, dirt, fuzz and filth.

C. Elsco Roller Guides often save the cost of new rails or costly realignment of old rails. Elsco Guides roll and do not slide.

D. Because of dry rails, emergency safety jaws hold better in the event of accident.

E. Elsco Roller Guides give a smooth, gliding ride.

Elsco Safety Roller Guides have been in successful operation since 1941. Approved unanimously by the Board of Standards and Appeals of N.Y.C. up to 1200 f.p.m. Adaptable to passenger and freight elevators—new or old—regardless of capacity or speed. Installed in leading buildings from coast to coast and abroad. The only safety roller guide with oscillation, traction and knee action.

YOU OWE IT TO YOUR BUILDING TO INSTALL THE NEW ELSCO SAFETY ROLLER GUIDES

(Patented and trade mark registered)

For further information inquire of your dealer or

ELEVATOR SAFETY CORP. 165 BROADWAY NEW YORK 6, N.Y.

SAFETY WITH SAVINGS

▼ BREVITY—Identify by IEN - 6027 if you write the maker ▼

Peerless Electric PRESSURE BLOWERS

produce a large volume of air at high static pressures

•

FOR SMALL EXHAUST SYSTEMS AND FOR CONVEYING, COOLING, ETC.

Straight radial wheels on heavy back plate with heavy cast-iron hub, dynamically balanced and designed for efficient operation.

Sturdy arc-welded housings and bases.

Peerless manufactured ball-bearing motors.

Furnished for clockwise or counter clockwise rotation—any direction of discharge.

Tested and rated in accordance with standard test codes.

Write for complete specifications

THE PEERLESS ELECTRIC COMPANY
Established 1893 • WARREN, OHIO

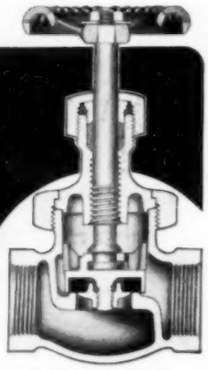
Peerless Electric MOTORS • FANS • BLOWERS

▼ BREVITY—Identify by IEN - 6028 if you write the maker ▼

LP-GAS VALVES by CRANE

TIGHTER SEATING

SIMPLIFIED DISC RENEWAL



WORKING PRESSURES:
400 pounds gas or oil; 150° F. Max. Temp. 400 pounds water; 200° F. Max. Temp. Sizes: ¼ to 2-inch.

No. 130, Globe, Screwed.

You're looking at a Crane Valve that more than meets Underwriters' specifications for safe and efficient handling of Liquefied-Petroleum Gases. Made of Crane Special Brass, these composition disc valves can be kept tight indefinitely.

TIGHT SEATING—is assured by soft but resilient Crane No. 6 composition disc, cemented tightly into disc holder. Wedge-type disc-retaining nut reinforces disc against strains and distortion caused by tight closure.

SIMPLIFIED DISC RENEWAL—merely open union ring bonnet joint and lift out complete disc assembly. Replace disc holder with spare containing new disc.

EXTRA-TIGHT STEM SEAL—deep stuffing box is filled with one-piece molded asbestos packing selected for LP-Gas services.

SUITABLE FOR OTHER SERVICES—such as hot or cold water, compressed air, gasoline, light oils, and volatile fluids at rated working pressures and temperatures.

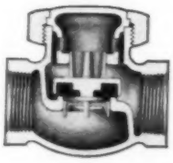
CRANE CO., 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

SEND FOR THIS NEW FOLDER

—includes specification data, service recommendations, list prices. See your Crane Man; or, WRITE FOR FOLDER AD-1820.

No. 131, Angle Screwed

No. 132, Horizontal Lift Check, Screwed



EQUIPMENT FOR EVERY PIPING SYSTEM

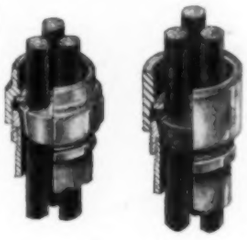
CRANE

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

▼ BREVITY—Identify by IEN - 6030 if you write the maker ▼

CONDUIT FITTING . . Cable support in extension and terminator designs

Source: ADALET MFG. CO.
14303 Lorain Ave., Cleveland 11, Ohio



Type CSREF, to the left in the illustration, and Type SCSR, to the right, are two new designs in the company's line of conduit-riser cable-supports and seals. The former is threaded at its upper end for connection to an extension run of rigid or flexible conduit. The latter has a recessed plain upper end to provide a cup that can be filled with sealing compound. It is for terminating installation at the end of a rigid conduit.

Both assemblies employ a wedge-type insert through which the cables pass. Weight of the cable acts with tightening action, when the fitting parts are assembled, to drive it against the cables and grip them securely. Sizes range from 1 to 5 in. for threaded conduit connection.

▼ BREVITY—Identify by IEN - 6031 if you write the maker ▼

INSULATING . . Clear lacquer for application on electronic elements

Source: COMMUNICATION PRODUCTS CO.
Clark & Broadway Sts., Keyport, N. J.

Is stable and waterproof

Q-Max clear RF lacquer No. A-27 is a new electrical insulating material that dries in the air to a hard protective loss-free film. It is particularly suited for use in coil manufacture. It provides good mechanical protection.

▼ BREVITY—Identify by IEN - 6032 if you write the maker ▼

PROCESSING . . Hydrogenator for quick dispersion of gases, solids

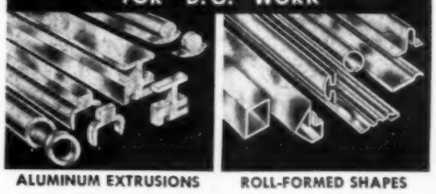
Source: STRUTHERS WELLS CORP.
1001-5 Pennsylvania Ave., Warren, Pa.

Stainless steel, nickel, Monel Metal, Inconel or mild steel can be specified for the construction of this new processing equipment. A cylindrical housing encloses an assembly of coils and a central vertical motor-driven shaft mounting removable propeller blade arms to provide for adjustment to meet given conditions. The driving motor is at the top in connection with a right-angle speed reducer. At the bottom is a flush outlet valve. Each unit is built for operation under specified conditions of pressure, vacuum, temperature, degree of agitation, capacity.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 6033 if you write the maker ▼

PROMPT-DELIVERY! FOR "D. O." WORK



ALUMINUM EXTRUSIONS — ROLL-FORMED SHAPES

Let Werner light metal shapes help you meet "D.O." deadlines.

You can get prompt delivery of "custom" shapes in extruded aluminum, as well as roll-formed aluminum, stainless steel, brass, zinc and copper. Shapes are manufactured to close tolerances, to your exact specifications. Quality is assured by Werner's extensive manufacturing and engineering experience, plus full production facilities, including tool-and-die-making equipment.

For an estimate, send drawing and specifications, plus data on quantity, finish, length, etc. Werner can perform the following secondary operations—bending, drilling, punching, cutting, counter sinking and welding. Finishes—as extruded, polished or anodized.

FREE bulletins describing manufacturing facilities and telling when to choose extruded or rolled shapes. Write:

R. D. WERNER CO., Inc.
295 FIFTH AVE., N. Y. 16, N. Y. • PHONE MU 6-2595
MANUFACTURERS OF ALUMINUM EXTRUSIONS AND ROLL-FORMED SHAPES

▼ BREVITY—Identify by IEN - 6034 if you write the maker ▼

robot rejection maintains VICTOR

One reason why Victor Blades are uniformly excellent is this machine that almost thinks. First, it rounds the ends of the blade and punches the holes in the ends. Then it stamps in the brand, sets the teeth for side clearance, rolls out the set at the extreme ends for snug fit in the frame and finally bundles the blades for heat treatment in Victor's exclusive molten lead bath. *Most important of all even the slightest imperfection or trace of dirt on a blade stops the machine cold—causes immediate rejection of the imperfect blade.*

VICTOR STEELRITE METAL MARKING CRAYONS

These genuine soapstone crayons are invaluable for marking any hot, cold, damp or grimy metal. A special extrusion process gives them extra strength and uniformity. Markings withstand pickling, will not affect enamel application. Available in a variety of sizes and shapes.

Ask your Victor Supplier for free copies of the Victor Metal Cutting Booklet and the Victor Wall Chart. They'll point the way to greater back saw blade efficiency.

7401

VICTOR SAW WORKS, INC.
Middletown, N. Y., U.S.A.

Makers of Hand and Power Hack Saw Blades, Frames and Band Saw Blades

▼ BREVITY—Identify by IEN - 6035 if you write the maker ▼

WHY WAIT for crane equipment?

Yes, why wait *months* and pay $15,000 to $25,000 for slow, cumbersome lifting equipment, when you can get prompt delivery of a versatile, high-speed BANTAM® crane for as little as $5520 (less truck, F.O.B. factory). Bantams are job-proved . . . over 2000 in use . . . backed by nation-wide distributor service. Write, phone or wire for complete details. Schield Bantam Co., 254 Park St., Waverly, Iowa. SB-1-45

SCHIELD BANTAM
Costs less . . . goes anywhere fast
GETS MORE JOBS DONE

▼ BREVITY—Identify by IEN - 6036 if you write the maker ▼

PIPE AND BOLT THREADERS

New Line! 4 Models! 4 Choices!

No. 782 PIPE THREADER
Stationary Die-Head
PIPE range ¼" to 2"
BOLT range ¼" to 1½"

No. 782-R PIPE THREADER
Revolving Die-Head
(Manually Operated) and Open-Type Vise Same range as No. 782 model.

No. 781-A BOLT THREADER
Automatic Revolving Die-Head
and Open-Type Vise
BOLT range ¼" to 1½"
PIPE range ¼" to 1¼"

No. 782-A BOLT THREADER
Automatic Revolving Die-Head
and Open-Type Vise
BOLT range ¼" to 1½"
PIPE range ¼" to 2"

The "RAPIDUCTION JR." Line

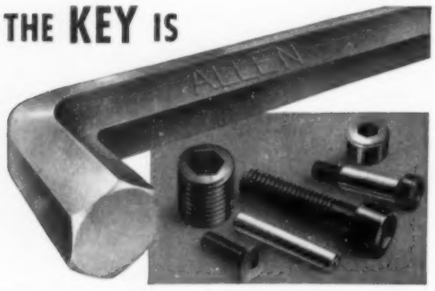
Basic features of these machines are the same. They differ chiefly in the type of Die-Heads and Work Holders.

Each "RAPIDUCTION JR." model is designed for a PRIMARY purpose. When YOUR exact needs are known, it's EASY to select the BEST machine to fit the job. Write us for complete details.

OSTER THE OSTER MFG. COMPANY
2053 E. 61st St., Cleveland 3, Ohio, U.S.A.

BREVITY—Identify by IEN - 6037 if you write the maker

THE KEY IS



HALF THE FASTENING TEAM

Where's the point in perfectly accurate screws and pipe plugs like Allens if you use a wobbly offsize key that bends, strips or gives way? A genuine Allen Hex Key in a genuine Allen ⬡ Socket is the perfect combination. Genuine Allen Keys of Allenoy Steel have the name stamped right on the side, and are available singly or in handy kits at leading distributors everywhere.

WARNING
Allen-Type screws aren't necessarily Allen-Made. Get genuine "Pressur-Formd" Allen ⬡ Head screws in the black and silver box.

ALLEN ALLEN HEAD
MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

BREVITY—Identify by IEN - 6038 if you write the maker

B.F.Goodrich

helps you get better operating results —better tire service

HERE'S a man who gets results for you. He's your BFG representative who helps you get longer, more efficient industrial tire service. He's trained in tire maintenance—will give you a program on tire care that helps increase production — eliminate lost time.

Let TW ANALYSIS lengthen tire life

This local B.F.Goodrich man is a tire specialist. He's been given training so that he can analyze your operation . . . study loads, hauls, equipment, floors and hauling surfaces and then make specific tire and wheel recommendations to you. He'll also give you suggestions on tire care and maintenance that you'll find particularly helpful. His tire selection recommendations are impartial because BFG has the only *complete* line of industrial tires. His only interest is in assuring the best possible tire service for you.

A similar program is also available for manufacturers of industrial hauling equipment.

For full details of the TW Analysis plan, mail the coupon below. There's no obligation whatsoever.

The B.F.Goodrich Co.
Department TW-115
Akron, Ohio

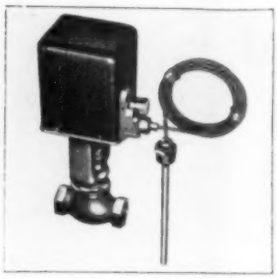
Please give me additional information on your new Tire and Wheel Analysis plan.

Name_____
Title_____
Company_____
City_____ State_____

BREVITY—Identify by IEN - 6040 if you write the maker

CONTROL . . Temperature regulator opens and closes steam supply valve

Source: BARBER-COLMAN CO.
1312-16 Rock St., Rockford, Ill.



Type ADFE, in sizes from ½ to 2 in., and Type FYBE, in a range between ¾ and 4 in., are two new designs of adjustable temperature control for equipment such as batch kettles, bottle washers, hot-water storage tanks. Each size in both types is available in a temperature range between 50 and 130 deg. F. or 120 to 200 deg. F. The smallest unit in each line will handle steam supply at 100 lb. maximum. The 2-in. unit in Type ADFE rates 10 lb. and the 4-in. Type FYBE rates 16 pounds.

Actuation is by a temperature-sensitive immersion bulb. It connects to the control housing through an armored capillary tube to operate a motor circuit switch. The motor, enclosed in the housing, is gear connected to the valve stem for drive in opening or closing direction as dictated by the bulb. Cam-operated switches stop the action in both full-closed and full-open position. An indicator shows position at a given moment. A calibrated dial permits adjustment to a desired operating point within the overall range. The motor is available for 110 or 220-volt 60-cycle single-phase ac. Capillary tube length is standard at 8 feet. Maximum safe bulb temperature is 100 deg. F. above the upper limit of the temperature scale.

Face to face dimension over the valve is 2⅝ to 5⅞ in. in Type ADFE. It is 3¼ to 10½ in. in Type FYBE. Illustrated detail information is assembled in a 4-page bulletin, "Self-Contained Electrically Operated Temperature Regulators". Overall price range is $94 to $290.

BREVITY—Identify by IEN - 6041 if you write the maker

SANDING . . Rotating head carries brush backed abrasive strips

Source: VONNEGUT MOULDER CORP.
1827 Madison Ave., Indianapolis 25, Ind.

Sixteen strips of abrasive cloth are coiled upon a central spool in this new design of the company's sanding head, previously described IEN-5964-45. The strips are brought out radially, each in front of a back-up brush secured in the outer shell of the assembly. In operation the brushes back up the abrasive strips, force them into depressions and permit them to retract over projections for uniform finish on irregular surfaces.

Two widths take strips measuring 2 in. and 4 in., each 18 in. in length. Total abrasive strip storage provided by the unit in coil form is 24 lineal feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6042 if you write the maker

Practical Lab Men Like Their Despatch OVENS

For development work and new product testing, Minn. Mining technicians approve the wide temperature range . . . variety of raw materials handled . . . capacity for large samples.

- Air velocity control
- Guaranteed heat elements —2700 to 12,000 Watts
- Precision indicating control
- Six models in wide range of capacities
- Accurate—speedy—rugged

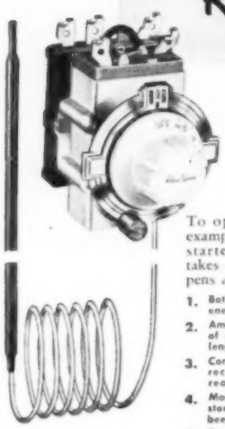
Manufacturers of Ovens for all purposes

Minnesota Mining & Manufacturing Company uses Despatch "V" Ovens in research and control of "3M" products and applications. Users of Despatch Ovens from its earliest days, this well-known company now has scores of them in its various departments. For information on how Despatch can be put to work on your laboratory and production problems, *write for Bulletin No. 106.*

DESPATCH OVEN CO. Established in 1903
337 Despatch Building
Minneapolis 14, Minnesota

BREVITY—Identify by IEN - 6043 if you write the maker

Robertshaw® THERMOSTAT



SINGLE UNIT CONTROLS
Motor • Time • Temperature

To operate a laundry dryer, for example, user sets dial and pushes starter button. The control then takes over — and here's what happens *automatically.*

1. Both the heater and the motor are energized.
2. Amount of moisture and weight of clothes scientifically determine length of time dryer operates.
3. Control cuts heat switch when correct internal temperature is reached, but —
4. Motor continues to run until all stored heat in drying chamber has been utilized.
5. Control economical to install. Write for information.

In Home and Industry, *EVERYTHING'S UNDER CONTROL*

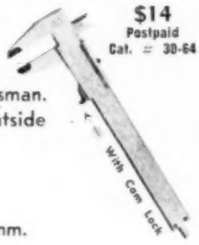
Robertshaw
THERMOSTAT DIVISION
ROBERTSHAW-FULTON CONTROLS COMPANY
YOUNGWOOD, PENNSYLVANIA

BREVITY—Identify by IEN - 6044 if you write the maker

M. Z. B. Mauser Type PRECISION VERNIER CALIPERS

ACCURATE DEPENDABLE

$14 Postpaid Cat. # 30-64



A tool for the craftsman. Measures inside, outside and depth

Graduations:
Decimals to .001"
Decimals to 1/20 mm.

Measuring capacity 5¼"

Same model in stainless steel (Cat. #30-65 — $16.50)

For other models request catalog

INTER-CONTINENTAL TRADING CORP.
90 WEST STREET NEW YORK 6, N. Y.

BREVITY—Identify by IEN - 6045 if you write the maker

FOR VENTILATION, FUME & DUST CONTROL AIR CONDITIONING

FLEXAUST

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE

Flexaust is of proven suitability for a wide variety of suction and pressure uses in ventilation, fume and dust control, air conditioning.

EXTREMELY EASY TO INSTALL—EFFICIENT AND ECONOMICAL IN USE

SIZES: 1¼" to 28" dia.
Various Flexaust types, accessories, and other hose types also available:

BLOFLEX — Non-reinforced collapsible hose
PORTOVENT — Ring-reinforced retractable hose

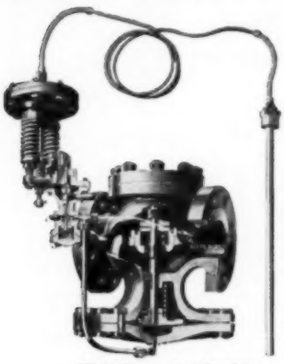
Write for full descriptive data and prices

AMERICAN VENTILATING HOSE CO.
Dept. IE-6, 15 Park Row, New York 38, N. Y.
Plant: Amesbury, Mass.

▼ BREVITY—Identify by IEN - 6046 if you write the maker ▼

LOW COST

Temperature Control



ET150 Temperature Regulator

Tops in performance for both storage and instantaneous heaters, this pilot-operated Spence regulator offers these important advantages:

SECO Metal Seats and Discs — 20 years experience has failed to produce a single case where SECO Metal has been cut by steam.

Packless Construction — minimizes friction . . . eliminates much time-consuming maintenance.

Large Metal Diaphragm—under usual conditions never requires replacement.

New bulletin gives complete data on the entire line of Spence regulators. They are made in sizes from ¼" to 12" for service with air, steam, water, oil or gas. Write for your free copy of Bulletin 500 today.

SE-106

Spence

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

▼ BREVITY—Identify by IEN - 6047 if you write the maker ▼

Silicone RUBBER PARTS

SILICONE RUBBER STOCKS

Compound Number	Durometer Shore A Scale	Tensile Strength P.S.I. Avg.	Tensile Strength P.S.I. Min.	Elongation % Avg.	Elongation % Min.	Temperature Range °F. Low	Temperature Range °F. High	Compression Set % 5 at 50° F.	Resistance to Ozone Aging Cracking	Color
*Silicone 130	45 to 55	540	>500	350	>300	<-70	+500	40 to 60	200	White
165	50 to 60	400	>450	180	>150	<-70	+500	30 to 70	200	White
100	70 to 80	790	>575	80	>60	-90	+500	70 to 90	400	White
101	70 to 80	670	>500	80	>60	-90	+500	60 to 90	800	Grey
6-101	70 to 80	650	>500	60	>50	<-110	+500	40 to 60	800	Grey
200	40 to 50	600	>550	500	>350	<-110	+500	40 to 60	800	Orange tan
**G.E. RTV25	40±5		300		400	-80	+500	60 to 75	400	1
**G.E. RTV21	30±5		600		250	-80	+500	65 to 75		1

*Registered Trade Mark of the Dow Corning Corporation.
**Specifications listed for this stock are based on cure of 24 hrs. 400° F.
1(General) Electric silicone rubber can be tinted in a choice of colors.

ONLY SILICONE rubber parts withstand the severe temperature conditions encountered in whistling, speeding, supersonic jets. These same SILICONE rubber compounds are available for application in transformers, aircraft and marine instruments, internal combustion engines, motors, and generators as well as chemical and electrical equipment.

ONLY SILICONE rubber parts retain their desirable physical, chemical and dielectrical properties within a temperature range of —110° to +500° Fahrenheit. These parts feature excellent resistance to weathering, oxidation, ozone and many chemicals. SILICONE parts advantageously replace many special metal constructions forced upon design engineers by the limited thermal stability of organic rubber compounds.

STALWART is prepared to mold, extrude, punch, and lathe-cut precision SILICONE parts engineered to meet individual requirements as well as S.A.E. and A.S.T.M. specifications.

Write today for the new 16-page, illustrated catalog Number 51SR-1 for additional details.

STALWART RUBBER COMPANY
6152 NORTHFIELD ROAD • BEDFORD, OHIO

▼ BREVITY—Identify by IEN - 6049 if you write the maker ▼

PHOTOGRAPHING . . Camera assembly takes employee identification pictures

Source: UNITED STATES CAM-O-CORP.
Holmes & 18th Sts., Kansas City 8, Mo.

A film with capacity for 1,000 exposures applies in this recently improved assembly of camera, adjustable mounting, identification frame and height-indicating background to take employee pictures for identification purposes. The company maintains a service through which the film is developed upon being returned by the user. It also prints plain or laminated identification cards in specified sizes as well as several standard sizes of photographs for application in badges which the user may have in service.

▼ BREVITY—Identify by IEN - 6050 if you write the maker ▼

SEALING . . Metal cover cap fits removably over enclosure opening

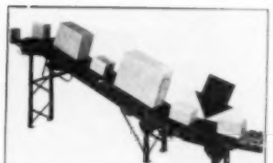
Source: BUCHANAN ELECTRICAL PRODUCTS CORP.
1288-92 Central Ave., Hillside, N. J.

Five sizes are standard in the company's new line of spring-clip Knockout Plugs to clip into and cover conduit clearance openings from ½ to 1½ inches. The unit is made of stamped steel with cadmium-plated finish. The cap can be employed to keep foreign matter out of an opening and also to protect threaded openings.

▼ BREVITY—Identify by IEN - 6051 if you write the maker ▼

CONVEYING . . Feeder section for company's incline belt conveyor

Source: RAPIDS-STANDARD CO.
342 Rapistan Bldg., Dept. PFA, Grand Rapids 2, Mich.



Overall length in standard assembly is 30 inches. Two available widths are 10 and 16 in. in a new power feeder for assembly at the lower end of the company's incline Floor-Veyor, Jr. motor-driven belt conveyor. The feeder is chain connected to the belt pulley on the conveyor. It assembles at an incline somewhat less than that of the conveyor itself. It takes long packages from a roller line and delivers them without difficulty to the main conveyor belt. Pulleys on the feeder are mounted in ball bearings. Take-up slides are provided.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

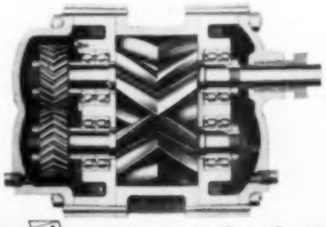
▼ BREVITY—Identify by IEN - 6052 if you write the maker ▼

WARREN-QUIMBY ROTEX PUMPS are *Versatile*

For pumping lubricating, non-lubricating and viscous liquids such as acids, alkalis, coolants, diesel oil, dyes, fuel oil, gasoline, inks, lube oils, molasses, paints, paraffine, shellac, solvents, syrup, tar, varnishes and many other liquids.

TWO GENERAL TYPES AVAILABLE: Gear-in-head for clear liquids having sufficient lubricating qualities to protect driving gears and bearings. External gear and bearing for non-lubricating liquids, such as gasoline, heavy tars, asphalts, acids, etc.

Warren Plant Facilities, Dependability, Quality and Service now behind WARREN-QUIMBY Pumps.



WARREN QUIMBY PUMPS

Your inquiries on Rotex and Screw types, as well as Warren's complete line of Centrifugal and Reciprocating Pumps are solicited.

IEN-6

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC. • 62 Bridge Ave. • Warren, Mass.

▼ BREVITY—Identify by IEN - 6053 if you write the maker ▼

PALMGREN ANGLE VISES

HEAVY-DUTY Model

For Quick — Accurate Set-ups

PALMGREN Heavy Duty Angle Vises are built sturdy and rugged for tough, heavy jobs. They are accurately graduated in degrees, can be quickly adjusted to any angle, stay locked under severe service and save valuable hours otherwise wasted in tedious make-ready, wedging or making temporary jigs and fixtures.

Jaws are hardened and ground. Special outstanding features are the size and opening of jaws—4" Jaws open full 4", the 6" Jaws open full 6" etc., with corresponding depth of Jaws. Vise can be used as ordinary vise when lowered to horizontal position. Swivel bases furnished if desired. Sizes 4", 6" and 8" Jaws and openings. Prompt deliverion.

ORDER TODAY
Be sure of IMMEDIATE DELIVERIES

Write for bulletin on complete line of PALMGREN Vises.

CHICAGO TOOL & ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS for over 25 years
8406 SOUTH CHICAGO AVENUE • • • CHICAGO

PRECISION WORK AT ANY ANGLE

▼ BREVITY—Identify by IEN - 6054 if you write the maker ▼

HEVI DUTY ELECTRIC COMPANY

"MULTIPLE UNIT"

MUFFLE FURNACE

With Many Advantages

For Temperatures to 1850° F.

FOUR STANDARD SIZES

Write for Bulletin LAB-849

- ★ Less Heat Loss — Improved Insulation and No Rheostats
- ★ Better Control Through a 36-Step Tap Changing Transformer in the Pyramidal Base
- ★ Pyrometer and Transformer Control Assembly in Easily Removed Base Drawer
- ★ Reversible "Multiple Unit" Heating Elements

HEVI DUTY ELECTRIC COMPANY
HEAT TREATING FURNACES HEVI-DUTY ELECTRIC EXCLUSIVELY
DRY TYPE TRANSFORMERS — CONSTANT CURRENT REGULATORS
MILWAUKEE 1, WISCONSIN

▼ BREVITY—Identify by IEN - 6055 if you write the maker ▼

PRINTWEIGH STOPS LOSSES!

ELIMINATES HUMAN ERRORS IN READING REMEMBERING AND RECORDING WEIGHTS

PRINTWEIGH SCALES give you *accurate printed records* of each weighing operation . . . positive assurance that your weight facts are right *every* time! Prints big, clear figures . . . on thick tickets . . . on large or small sheets . . . on strips . . . with extra copies. Saves time, stops losses for receiving, shipping, stock rooms, batching and many other weighing operations. Write for bulletin 2021. Toledo Scale Company, Toledo 12, Ohio.

TOLEDO

HEADQUARTERS FOR SCALES

BREVITY—Identify by IEN - 6056 if you write the maker

We Sell Air...

BILLMYRE Blowers and Exhausters

for Air, Gas, Vacuum

Centrifugal Type Single and Multi-stage ½ lb. to 7 lbs. pressure ½ h.p. to 250 h.p.

No internal lubricant required — hence, air is delivered clean and dry.

Constant pressure maintained — no controls or regulating devices required for power, pressure or relief.

Applications

Agitation and Aeration, Cooling and Ventilation, Combustion, Gas and Acid Manufacturing, Conveying and numerous other applications having various pressure or vacuum requirements.

Half-Century of Experience

Our engineering staff is at your command. Call on us when you have an air-moving problem.

Bulletin 5-8 gives descriptions, applications and specifications. Free — send for it today. Write: Lamson Corporation, Blower Division, 442 Lamson St., Syracuse 1, N.Y.

LAMSON

BREVITY—Identify by IEN - 6057 if you write the maker

Powermaster®

Fully Automatic

STEAM GENERATORS

and HOT WATER BOILER UNITS

Save Fuel!

For light oil, heavy oil, gas and gas/oil firing. Steam generating units from 15 to 500 HP.—15 to 200 p.s.i. Hot water boiler units 30 p.s.i. Reduce operating costs as much as 40% — save man-hours — get clean, dependable heat and hot water. A.S.M.E. Code construction.

Write For Bulletin

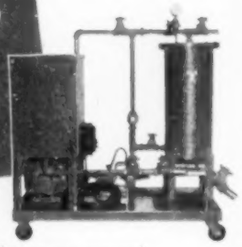
ORR & SEMBOWER, INC.

860 Morgantown Rd., Reading, Pa.

BUILDERS OF DEPENDABLE BOILERS SINCE 1885

BREVITY—Identify by IEN - 6058 if you write the maker

You Save TIME MATERIALS MONEY



WHEN YOU USE

Titeflex FILTERS

Here's how you Save Time: The Titeflex backwash system cleans out all residue automatically in approximately 20 minutes *without manual labor.*

Here's how you Save Materials: Permanent filtering elements support cake. There is no need for costly replacements such as bags, pads, sheets, etc.

These Titeflex features, plus many others, add up to genuinely efficient *lower-cost* filtration . . . an easier method of handling a difficult mechanical problem. Get the complete Titeflex story!

WRITE FOR FREE CATALOG

Showing sizes, capacities and filtration areas of all Titeflex models.

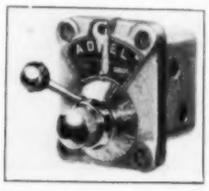
TITEFLEX, INC.

506 FRELINGHUYSEN AVENUE NEWARK 5, N. J.

BREVITY—Identify by IEN - 6059 if you write the maker

VALVE . . Hydraulic throttle design for line pressure to 1,500 pounds

Source: ADEL DIVISION
10855 Van Owen St., Burbank, Calif.



New assembly of pressure regulator and variable rectangular orifice in this new hydraulic throttling valve provides a means to control the speed of operation of a hydraulic cylinder or hydraulic motor regardless of variations in inlet pressure. The valve is available in ⅜ and ¾-in. pipe sizes, the smaller unit for maximum flow at dial position 10 of 1, 2, 4 and 6 gpm. The larger unit is made in four maximum flows of 10, 15, 20 and 25 gpm.

Any intermediate flow can be obtained by turning the dial to a lower figure. The rotating action operates a helical cam to reduce the area of a square opening in a hardened sleeve located between inlet and outlet. Overall movement is through 270 deg. to provide for accurate flow setting without need for vernier adjusting screws. The cam shaft is axially balanced hydraulically so no drain line is required.

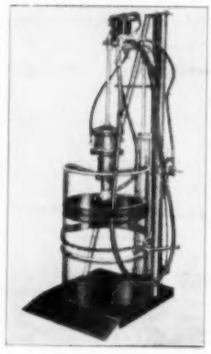
A pressure reducer, consisting of a spring-backed piston and poppet, maintains fixed pressure differential across the orifice. The spring urges the poppet to open position to produce a differential across the orifice of about 25 lb. per sq. in. regardless of variation in inlet or outlet pressure.

The assembly with ⅜-in. pipe connections measures 4 in. in width by 4¾ in. in height at the front mounting plate. The body extends back about 3¾ inches. The ¾-in. assembly measures 6 in. in width by 6¼ in. in height at the front panel. Its body extends back about 4¾ inches.

BREVITY—Identify by IEN - 6060 if you write the maker

PUMP . . Dispensing equipment handles heavy lubricants, mastics

Source: LINCOLN ENGINEERING CO.
5732 Natural Bridge Ave., St. Louis 20, Mo.



New assembly of platform, column, braces, clamps and pneumatic cylinder has been developed for application with the company's heavy-duty pneumatic-motor drum pump and pneumatic follower. The equipment delivers heavy lubricants and mastics from the containers in which they are shipped. A three-position control valve is included to raise, lower and hold the pump and the follower assembly in desired position with relation to the drum. A regulator controls the air pressure.

A solenoid valve actuated by a Micro switch attached to the control valve on the material delivery hose admits air to the pump to permit its operation alone while the material is being delivered. A follower vent breaks the seal when the elevator is to be raised. Pressure of 7,100 lb. can be exerted on the material.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6061 if you write the maker

"HOW CAN I STEP UP PRODUCTION— without adding new machines?"

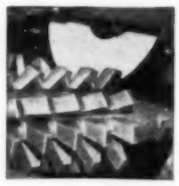
How to do *that* is "the answer to the maiden's prayer" for the harassed Production Man today. Well, there's one thing very sure about it. If your machines occasionally stand idle at odd moments (even if this down-time amounts to only a few minutes each day), they aren't giving you all-out production. Now, *you* can't watch each machine all day, but a *Servis Recorder* can—and *does.* And its chart reports every idle period. Then you'll know what to do to step up production. Write for our folder—"*A Busy Plant.*" THE SERVICE RECORDER CO., 1375 Euclid Avenue, Cleveland 15, Ohio.

The Servis Recorder

The "Time Clock" for Machinery

BREVITY—Identify by IEN - 6062 if you write the maker

TAKE A LESSON FROM THE BIG USERS... USE ROBERTSON COOL-CUT WHEELS ON THE TOUGH ONES



Grinding hobs is a tough job that a Robertson Cool-Cut Wheel takes in its stride. The revolutionary open structure of a Cool-Cut Wheel gives you fast and cool cutting, no matter what size hob, no matter what hardness of steel.

Large hobs with 1½" or greater pitch may be successfully ground with a 10" x 1" x 1" WA464-J2V Robertson Wheel. On smaller hobs, a Robertson 7" x ½" x ¼" RA60-J2V will give highly satisfactory results. There will be no burning and very little heat generated. Experience has shown that you can expect a 50 percent or greater saving in grinding time when you use a Robertson Cool-Cut instead of a conventional wheel.

Precision-built Robertson Wheels are proving themselves daily on tough production-line jobs the country over. If you have an "impossible" job, blueprint your problem and let us recommend a wheel to solve it. Or send for the informative booklet "How To Buy Production Time."

ROBERTSON

MANUFACTURING COMPANY

TRENTON 5, NEW JERSEY

Resin-Bonded and Vitrified-Bonded Grinding Wheels • Mounted Wheels • Segments

BREVITY—Identify by IEN - 6063 if you write the maker

Cut Your Costs by Redesigning for RETAINING RINGS

Gehl Harvesters and Hammer Mills are famous for their efficiency, rugged construction and continuous heavy duty service. By skillful designing for retaining rings Gehl Bros. Mfg. Co. of West Bend, Wisconsin saves metal, money and time. Perhaps you can too.

Hundreds of machines and products can and should be redesigned to take advantage of these inexpensive, yet highly efficient, artificial shoulders. Retaining rings are certain to save man hours as well as material.

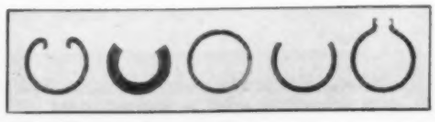
To offset the rising costs of so many things here is one sure way to increase your margin of profit.

Don't cut down large shafts to make your shoulders—it's needless waste. Groove all shafts and housings and use these high grade steel rings.

Examine your machines and products today, and send for a descriptive folder of our many types of retaining rings.

THE NATIONAL LOCK WASHER CO.

NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN, U. S. A.



▼ BREVITY—Identify by IEN - 6065 if you write the maker ▼

PRINTED TAPE CODES

LUBRI-CATION LUBRI-CATION LUBRI-

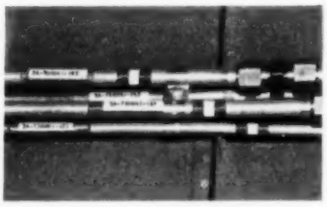
FOR HYDRAULIC TUBING — ELECTRICAL HOOK-UPS, ETC. AND10375 STANDARDS ALSO NEMA AND ASA STANDARD A-13

USE PRESSURE-SENSITIVE Topflight Tape

WIDE COLOR RANGE

QUICKLY APPLIED

NO WATER, GLUE OR STRIPPING



Use for parts numbers identification, name plates, warning labels, wiring diagrams.

USED IN STANDARD DISPENSERS

Write For Free Folder

TOPFLIGHT TAPE CO.
YORK, PENNSYLVANIA — U. S. A.

▼ BREVITY—Identify by IEN - 6066 if you write the maker ▼

"Mighty considerate of them to build this place out of slip-resistant 4-Way Safety Plate."

For greater safety under foot, in your plant and on your products

Inland 4-Way® Safety Plate

Firesafe

Long Life

Quick Starts—Stops

Adds Strength

STOCKED BY LEADING STEEL WAREHOUSES

INLAND

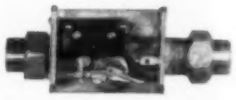
INLAND STEEL COMPANY, Dept. IEN-63
38 So. Dearborn St., Chicago 3, Ill.
Sales Offices: Chicago, Davenport, Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis and St. Paul.

New Bulletin with New Ideas — Just Out! Bulletin F1. Complete engineering and application data. Send for it!

▼ BREVITY—Identify by IEN - 6068 if you write the maker ▼

SWITCH . . Flow operated to actuate electric control circuit

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



Flow-Interlock Type CR-2938 is a new flow-operated switch for assembly in a pipe line to close a control circuit when flow exceeds a preset amount and to open it when flow falls below this amount. It is adjustable in a range from ½ to 4 gal. per minute. Differential between cut in and cut out is 0.1 gallon. The switch contacts rate 10 amp. at 110 or 220-volt ac. Maximum line pressure is 110 pounds.

A bronze piston in the main housing operates a spring-backed rocker arm connecting to the switch which is enclosed under a protecting cover on the side of the housing. An adjusting screw in the rocker arm permits setting a desired flow within the overall range. The assembly includes an inlet strainer and union fittings at both ends. Applications include water heaters, cooling circuits to welding units, transformers, induction heaters, dynamometers, electronic assemblies. While the interlock does not control the amount of water flow, this can be controlled by installing a valve ahead of the device.

▼ BREVITY—Identify by IEN - 6069 if you write the maker ▼

PROTECTING . . Skin creams, water soluble and water repellent form

Source: BOYER-CAMPBELL CO.
6538-42 St. Antoine St., Detroit 2, Mich.

Detail information in 16 page catalog "Skin-Cote"

Skin-Cote trade names a new line of six creams and four liquids for worker protection in industrial occupations. The creams are packaged in 8 to 16-oz. jars, 12 or 24 jars to a carton and in 25-lb. pails. The liquids are in pints, gallons and 50-gal. drums as standard packaging.

▼ BREVITY—Identify by IEN - 6070 if you write the maker ▼

LATHE TOOL . . Tool bit holder mounts four-position indexing head

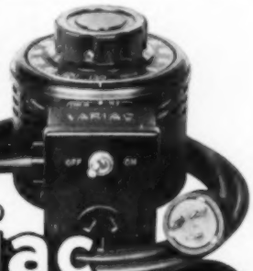
Source: WILGUS MFG. CO.
E. 16th St. & Staunton Ave., Los Angeles 21, Calif.

Four tool bits are secured in the indexing head of this new holder to be brought successively into position for a series of machining operations. The heads take 5/16-in. square bits measuring 1¼ in. in maximum length. The shank measures 1½ by 1⅛ in. in section and is 6 in. in length. The tool is available in right-hand, left-hand and straight-shank design. It weighs 1½ lb. and lists at about $29.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 6071 if you write the maker ▼

To Control A-C Operated Equipment



Variac

. . . the original continuously-adjustable autotransformer . . . is the simplest, most efficient and most convenient way to vary the voltage on any a-c operated device. Unlike the resistive-type of control, the no-load losses in the VARIAC are extremely low, the VARIAC being a transformer.

When connected to the a-c supply line, the VARIAC will supply voltages continuously adjustable from ZERO to 17% above line.

For manually maintaining the correct voltage, for over- and under-voltage tests on all types of equipment and appliances, for varying speed, power, heat or light, the VARIAC is the answer.

We have a new bulletin describing our complete line of VARIACS with load ratings from 170 va to 24 kva. We'd like to send you a copy. Just write for the NEW VARIAC BULLETIN.

GENERAL RADIO Company
275 Massachusetts Avenue, Cambridge 39, Mass.
New York 6 Chicago 5 Los Angeles 38

▼ BREVITY—Identify by IEN - 6072 if you write the maker ▼

SAVE MANPOWER BY USING AUTOMATIC CIRCUIT CONTROL

EFFICIENT USE OF MANPOWER is more important today than ever before. Utilize this valuable manpower to the fullest by doing away with unnecessary *manual operation*—where automatic time control can do the job.

GENERAL ELECTRIC time switches furnish automatic time control for almost any job—process timing, pump and blower control, oven or conveyer control, plant lighting, floodlighting.

YOU'LL SAVE TIME and avoid the trouble of switching equipment on and off manually . . . you'll save in power costs that mount up when power is left on overtime.

General Electric offers you a complete line of time switches designed to fit *your* timing needs. See your G-E representative for more information. General Electric, Schenectady 5, N. Y.

T-47 TIME SWITCH: inexpensive, efficient control; for one ON-OFF operation in 24 hrs.

T-27 TIME SWITCH: handles almost any timing problem; rugged, versatile, convenient.

GENERAL ELECTRIC

▼ BREVITY—Identify by IEN - 6073 if you write the maker ▼

The Tool You'll Buy on Sight

Milwaukee HOLE-SHOOTER

3-speed "Right-Angle" Drill has many applications

See complete Kit below

No other "Right-Angle" drill made, at any price, gives you suitable speeds and power for drilling in wood, metal, masonry, concrete, tile. Hole-Shooter's time-saving performance in close quarters alone, soon pays its cost. Wt., only 9 lbs. . . . full ¼ H.P. Top quality . . . an amazing value. Write — Milwaukee Electric Tool Corp., 5360 W. State St., Milwaukee 8, Wis.

Milwaukee Tri-Speed Kit "412" includes . . .

1. S-412 ½" HOLE-SHOOTER, ball and roller bearings, Jacobs geared chuck, 450 R.P.M.
2. *2-speed "Right-Angle Drive"—low speed, 500 R.P.M.; high speed, 675 R.P.M.
3. 3 special bits — ¾", 1⅛", 2-9/16".
4. Special wrench for speedy adjustment of "Right-Angle Drive" and chuck.

Complete Kit $87.00

*Pat. Pending

Milwaukee QUALITY TOOLS

▼ BREVITY—Identify by IEN - 6074 if you write the maker ▼

The Hassall threaded pin for your assembly

better . . . quicker . . . at less cost

If your assembly requires a threaded pin for use in either metal or plastic, call on Hassall. We can offer you substantial savings in costs and prompt delivery even on small orders.

Size range: diameters 1/32" to 1/8"—lengths to 1". These threaded pins can be produced with threads, knurls and with either straight or spiral flutes.

If your problem involves a hinge pin, an insert or a small threaded pin for some other purpose, we can supply it in a wide variety of metals and in suitable plated finishes.

Hassall

JOHN HASSALL, INC.
132 Clay Street • Brooklyn 22, N. Y.

BREVITY—Identify by IEN - 6075 if you write the maker

Mathews Trolley Conveyers

"ENGINEERED TO SERVE PRODUCTION"

● One of the many widely applied types of conveying equipment designed and built by Mathews Conveyer Company.

The complete line of Mathews designed—Mathews built Conveyers includes the following:

ROLLER CONVEYERS • CHAIN CONVEYERS • LIVE ROLLER CONVEYERS
WHEEL CONVEYERS • ELEVATING CONVEYERS • BELT CONVEYERS
ROLLER SPIRAL CONVEYERS • PORTABLE CONVEYERS
SPECIAL CONVEYING MACHINERY

MATHEWS CONVEYERS

GENERAL OFFICES
Mathews Conveyer Company . . Ellwood City, Pennsylvania
PACIFIC COAST DIVISION
Mathews Conveyer Company West Coast . San Carlos, Calif.
CANADIAN DIVISION
Mathews Conveyer Company, Ltd. . . . Port Hope, Ontario
Engineering Offices or Sales Agencies in Principal American and Canadian Cities

BREVITY—Identify by IEN - 6076 if you write the maker

SPEEDY ROTOR CHIPPERS "PAID OFF" in 29 days

JOB: Cleaning off excess metal from base castings. Were using 14½ lb. hammers—slow and hard to control.
SOLUTION: Rotor Application Engineer recommended new Rotor Chippers. Weigh only 11½ lbs. Easy to maneuver. High speed. Lots of wallop.
RESULTS: Cut rejects. More output "paid off" new Rotor Chippers in 29 days.

Call us for a survey in your plant. *Ask for Catalogue No. 37.* AIR O'TOOL

ROTOR CHIPPER FACTS
LIGHTER . . . 1½ to 3 lbs lighter.
SHORTER . . . 1" to 2" shorter.
MATCH YOUR JOB . . . Each basic model can be adapted to three kinds of work

THE ROTOR TOOL CO.
CLEVELAND, OHIO

BREVITY—Identify by IEN - 6077 if you write the maker

Kinkless Safeguard for Removable Parts

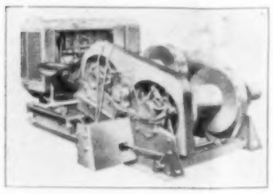
IF your product has removable parts which can be mislaid, dropped and broken, or lost, add usefulness and sales appeal at negligible cost by securing these parts with Bead Chain. Bead Chain provides the ideal safeguard for caps, covers, hasp pins, wedges, alarm hammers and other important parts. Strong, light, rust proof, completely flexible, it cannot kink, bind or jam. Free swiveling action makes Bead Chain especially adaptable for screw type parts. Made in five bead sizes, and in all metals and finishes. Attachments available for every need. For the finest retainers specify Bead Chain.

THE BEAD CHAIN MANUFACTURING CO.
59 Mountain Grove St., Bridgeport 5, Connecticut.
Manufacturers of: BEAD CHAIN — the kinkless chain of a thousand uses, for fishing tackle, novelty, plumbing, electrical, jewelry and industrial products. **MULTI-SWAGE** — the most economical method of producing small tubular metal parts for electronic and mechanical applications.
Trade Mark

BREVITY—Identify by IEN - 6078 if you write the maker

WINCH . . Multiple drum unit, engine or motor drive, pulls 8,000 lb.

Source: CLYDE IRON WORKS
Michigan & 29th Ave. W., Duluth 1, Minn.



Frame-5 Hoist is a new multiple-drum winch assembly with bronze-mounted drums, ball-bearing drive shafts, asbestos-lined driving and brake bands. The drums hold 3,500 ft. of ½-in. wire rope or 1,500 ft. of ¾-in. rope.

Four assemblies in the line employ 52 to 79-hp. gasoline engines for a line speed of 174 to 260 fpm. One assembly has a 56-hp. diesel engine for line speed of 208 fpm. Three motor driven units rate 50 to 75 hp. with line speeds at 186 to 279 fpm.

BREVITY—Identify by IEN - 6079 if you write the maker

MILLING . . Triangular bit cutter made in diameters from 4 to 24 inches

Source: WEDDELL TOOLS INC.
35-39 Centennial St., Rochester 11, N. Y.

Triangular bits are inserted into broached openings in the body of this new Series-70 Tri-Bit face-milling cutter. They are held in place by wedges, backed up by Allen set screws in the inner rim of the body flange. They are backed also by adjusting screws to move each bit for longitudinal adjustment. Three spacings are available to take 20, 30 or 40 bits in a 12-in. cutter. The bits can be specified in high-speed steel, cast alloy or with carbide tips.

BREVITY—Identify by IEN - 6080 if you write the maker

HOIST . . Electric chain design, ¼ and ½ ton, lifts at 17 to 34 fpm.

Source: DAVID ROUND & SON
Henry & Broadway, Cleveland 5, Ohio

Rocket "51" is a new motor-driven chain hoist in which a 220/440-volt 3-phase 60-cycle ac. motor is V-belt connected to a cam-actuated gear mechanism that provides a 10½-to-1 ratio to rotate the main drive sprocket. The assembly weighs 79 lb. and requires 14 in. of head room. Four available lift speeds are 17, 21, 24, 34 fpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6081 if you write the maker

TOUREK

BALL JOINTS • PIPE PLUGS AND QUALITY SCREW MACHINE PRODUCTS

Tourek's quality Ball Joints meet exacting requirements. Simplified design, improved performance, and lower costs result from specifying Tourek Ball Joints . . . the only recognized standard. Large stocks assure prompt delivery.

Tourek's precision counterbank steel pipe plugs are accurate, high strength, and economical—resulting in the highest quality at costs which are competitive to old style plugs.

Stock sizes, available with National Pipe or Dry-Seal threads are: ¼", ⅜", ½", ¾" and 1". Also available on special order in alloy steels, aluminum or brass in sizes up to 2⅝" diameter.

Modern high speed single and 6-spindle automatics—together with complete secondary equipment, including grinding and brazing—plus 50 years' experience, assure you "The Best in Quality Screw Machine Products."

Your requirements, up to 2⅝", are made with utmost precision, and with prompter delivery assurances.

LITERATURE
Comprehensive data on any or all Tourek products sent promptly upon request—write for yours now. J. J. TOUREK MFG. CO. 4701 W. 16th St., Chicago 50, Ill.

TOUREK
"THE BEST IN QUALITY SCREW MACHINE PRODUCTS"

ESTABLISHED IN 1920

BREVITY—Identify by IEN - 6082 if you write the maker

WATSON-STILLMAN HYDRAULIC POWER TOOLS

HYDRAULIC JACKS

These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 500 tons.

HAND PUMPS

Single and double plunger types, with reservoirs of different capacities to suit the job, these hand pumps have a wide application for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

PORTABLE PIPE BENDERS

Bends all standard, extra heavy and double extra heavy steel pipe from ⅜ in. to 2 in. inclusive, as well as standard weight pipe up to 3 in. diameter. Also handles solid mild steel bars up to 2 in. diameter.

WIRE ROPE SHEARS

W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

Write for Bulletin A-5

Distributor Products Division
WATSON-STILLMAN
ROSELLE, NEW JERSEY

BREVITY—Identify by IEN - 6083 if you write the maker

good head for fast work

This head lets you see what you're doing; keeps controls at the comfort level; responds quickly with minimum effort. Correct gear ratio makes manual head traversing easy, lets you spot the head right on the "O." Gilbert "heft" in the right places minimizes deflection, holds accuracy even when drilling large work at outside limits of head and arm travel. Write for new Bulletin No. 349. *Those who buy Gilbert buy Gilbert again.*

THE CINCINNATI **GILBERT** MACHINE TOOL COMPANY
3366 BEEKMAN ST. • CINCINNATI 23, OHIO

RADIALS
BORING MILLS
ACCESSORIES

BREVITY—Identify by IEN - 6084 if you write the maker

Bin Stuck Lately?

Don't ruin your Bins

Vibrate them with a TYPE F CLEVELAND AIR VIBRATOR

● Steel Chips . . . Dry Colors . . . Concrete . . . Fertilizer . . . Sand . . . Coal . . . Soap . . . Sawdust . . . Vegetables . . . Chipped Ice . . . Meat . . . Candy . . . Wood Chips . . .

Or any other 'granulars' free up fast with a Type F Cleveland AIR Vibrator. Eliminate plugged or arched conditions. Write for Catalog No. 105 for complete details.

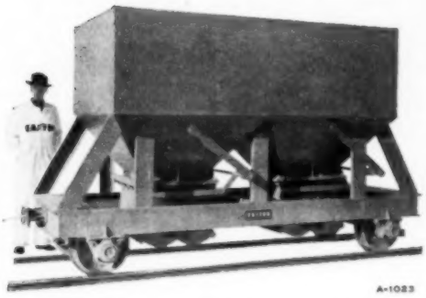
THE CLEVELAND VIBRATOR COMPANY

2737 Clinton Ave. • Cleveland 13, Ohio

BREVITY—Identify by IEN - 6085 if you write the maker

EASTON

a dependable design and construction service in industrial cars



A-1023

EASTON CAR & CONSTRUCTION CO. • EASTON, PA.

NEW YORK • PHILADELPHIA • PITTSBURGH

BREVITY—Identify by IEN - 6086 if you write the maker

OHMITE

HIGH-CURRENT

TAP SWITCHES

COMPACT... DEPENDABLE

The Most Complete Line of Its Type on the Market

Equipment manufacturers everywhere know that when they require high-current, non-shorting rotary tap switches, they can usually find just the right type and size in the Ohmite line. Ohmite tap switches are particularly designed for a-c use. They are extremely compact, providing up to 12 taps. Capacities range from 10 to 100 amperes a.c. In addition to the high-amperage, multi-point selector illustrated, Ohmite tap switches are available in open-type models, for both shorting and non-shorting applications. Ohmite is also prepared to supply open-type tap switches with special features—such as special angles between taps, and with up to 25 contact points. All Ohmite switches can be mounted in tandem for multi-pole operation.

5 SIZES
10 amp—150 v
15 amp—150 v
25 amp—300* v
50 amp—300* v
100 amp—300 v
*150 volts between taps

OHMITE MANUFACTURING CO.
4813 Flournoy St., Chicago 44, Ill.
Write on company letterhead for Engineering Catalog No. 40.

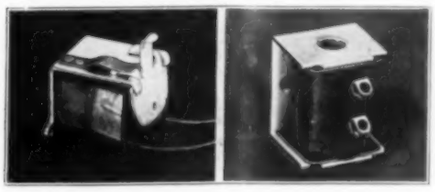
Be Right with **OHMITE®**

RHEOSTATS • RESISTORS • TAP SWITCHES

BREVITY—Identify by IEN - 6088 if you write the maker

SOLENOIDS . . Operating devices for application in equipment mechanism

Source: ETC INC.
1500 Lake St., Niles, Mich.



Clapper type unit, to the left in the illustration, and the bracket-assembled coil, to the right, are new electric and electronic components which the company is prepared to manufacture to specification in quantity. The clapper unit is a 24-volt dc. actuating unit to control the movement of a gear-rack assembly used in aircraft control. It can be employed in tripping mechanisms for switches to operate valves, is available for circuits to 110-volt ac. It is adjusted normally for $\frac{1}{16}$-in. armature travel. Weight is 2 oz. and dimensions are $1\frac{1}{4}$ by 1 inch. The clapper fulcrums on the bracket and operates with one finger under a flat leaf-type spring for return action.

The solenoid unit, to the right, employs a coil wrapped with Fiberglas cloth, varnish impregnated and re-dipped in a material that makes the unit impervious to penetration by water, oil, petroleum solvents. It operates a steel or stainless-steel plunger in a $\frac{1}{16}$-in. brass sleeve. The coil measures $1\frac{1}{2}$ by $1\frac{1}{2}$ by $1\frac{1}{4}$ inches. Operation can be specified on ac. or dc. to 220 volts as required.

BREVITY—Identify by IEN - 6089 if you write the maker

TRUCK . . Power lift fork design for loading and storing, rates 1 ton

Source: MOBILIFT CORP.
1133-37 S. W. Yamhill St., Portland 5, Oregon

Tier-Master is a new power-lift fork truck measuring 72 in. in height with its mast lowered so it can be entered into a motor-vehicle truck body. At the same time it telescopes upward for a lift through 117 inches. At this point overall mast height is 142 in. and there is sufficient lift to tier three pallets high in storage stacks. Lift movement is at 45 fpm. The design provides excellent visibility for the operator on his platform at the rear.

The assembly includes the company's Lev-R-Matic drive controls for forward and reverse operation at a single lever. Three additional control levers are grouped for the other truck movements. Outside turning radius is 57 inches. Drive is by a 3-cylinder air-cooled gasoline engine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6090 if you write the maker

NP PRE-ENGINEERED *Pneumatic* DOOR OPERATORS

- Speed material handling
- Isolate dust and fumes
- Isolate fire hazards
- Reduce cost of air conditioning and heat

Powered by the air engine that operates the car doors of the world's subways

Write for bulletin DC-102

NATIONAL PNEUMATIC CO., INC.
Boston • [illegible] ville, New York • Chicago

BREVITY—Identify by IEN - 6091 if you write the maker

Stop Stray Metal

...before it reaches your Customers

THE SUREST WAY to find stray metal hidden away in a package is with Allis-Chalmers electronic Metal Detectors. It detects both magnetic and non-magnetic metals.

The Metal Detector fits production set-ups. For example, conveyor belts from packaging machines can pass through the aperture of the unit 15 to 600 fpm. It can also be used on food processing lines to protect expensive machines from damage by stray metal. Compares in upkeep and operating cost with a radio.

Call your nearby Allis-Chalmers Office for 20 page bulletin 15B7217A which shows many ways to apply A-C Metal Detectors, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3332

ALLIS-CHALMERS

BREVITY—Identify by IEN - 6092 if you write the maker

CASTELL LOCKTITE HOLDER AND IMPORTED LEAD

—the "team" that simplifies your drawing and designing

REFILL DRAWING PENCIL
(black or colored)

Patented clutch holds lead in grip of iron. With push-button release, your fingers never touch the lead. Prevents slipping, smearing, smudging.

No. 9030 CASTELL REFILL IMPORTED Drawing Leads Degrees 7B to 9H

Perfect for LOCKTITE and usable in all other standard holders. Also available in red, blue, green, yellow, carmine, orange, white and silver.

AW FABER-CASTELL PENCIL COMPANY INC. NEWARK, N.J.

BREVITY—Identify by IEN - 6093 if you write the maker

AUTOMATIC MERCURY CLUTCH

Is Your Product Off to a Good Start?

Power Source reaches an efficient speed before any load is applied to it.

If your product is powered by an electric motor or gasoline engine, make certain that it is equipped with a Mercury Automatic Clutch . . . Improve its performance . . . Save operating costs . . . Add to its saleability.

Overloads cannot stall power source or slow it down below its efficient speed.

As applied to an electric motor, what are the advantages of the Mercury Automatic Clutch? . . . Reduced starting current demand. Smooth starting. No stalling of the motor. Elimination of costly maintenance.

As applied to a gasoline engine, what are the advantages of the Mercury Automatic Clutch? . . . No-load starting with smooth, steady operation. No stalling under severe overload. Complete clutch control through throttle.

Write today for full information. Ask for Bulletin C-5.

Mercury Clutch Division
AUTOMATIC STEEL PRODUCTS, INC.
CANTON 6, OHIO

BREVITY—Identify by IEN - 6094 if you write the maker

Versatile SUMP PUMP

● Advantages of this Deming Vertical Turbine Sump Pump include high efficiency, compactness, simplified installation, elimination of priming devices, and low maintenance costs.

Uses include high service pumping, recirculation, cooling, drainage, process pumping and similar industrial uses. Capacities range from 15 to 3500 G.P.M. at pressures up to 175 lbs. Various types of drive are available to take advantage of most economical source of power. For complete details, write for data on Figure 4700 Vertical Turbine Sump Pump.

THE DEMING COMPANY
521 BROADWAY • SALEM, OHIO

DEMING DEPENDABLE PUMPS — **DEMING PUMPS**

BREVITY—Identify by IEN - 6095 if you write the maker

Protect your closed process vessels for as little as $5.00

WITH THE HONEYWELL VACUUM BREAKER

The discharge of fluid from closed vessels sometimes becomes so rapid that the pressure differential between outside and inside causes collapse. The Honeywell Vacuum Breaker prevents such costly damage by keeping the vacuum within safe limits . . . cheap insurance considering cost of a half inch size is less than $5.00.

Sizes ½" to 3". . . screwed connections . . . spring loaded construction. Made of bronze throughout. Vacuum adjustable from 2 to 24 inches of mercury. Relief Capacity from 3.7 cu. ft. of air per minute for ½ inch size, to 720 cu. ft. per minute for 3 inch size. Prompt shipment from stock. Send in your orders today.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 1911 Windrim Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

Honeywell VALVE PRODUCTS

BREVITY—Identify by IEN - 6096 if you write the maker

Here's how to handle your INDUSTRIAL WASTE

Whether your problem is the addition of a single unit—or the installation of a complete treatment plant . . . Carter's organization of experienced engineers, trained mechanics and field specialists are at your service.

Our complete line of mechanical equipment for industrial waste treatment, water purification—and sewage treatment—has been designed, tested and proven—for more than a half-century—to give top performance.

Specify CARTER with confidence . . . .
ROTARY DISTRIBUTORS • FLOATING & FIXED COVER DIGESTORS • ALTERNATING SIPHONS • PADDLE AERATORS • SLUDGE PUMPS • RAPID & SLOW MIXERS • PNEUMATIC EJECTORS • CIRCULAR COLLECTORS • FLOCCULATION EQUIPMENT • DIAPHRAGM PUMPS • SELF-PRIMING CENTRIFUGAL PUMPS • PLUNGER PRESSURE PUMPS

185 Atlantic Street
R. B. CARTER CO. HACKENSACK, NEW JERSEY

Call us today — put your problem in OUR engineering department's hands. There is no obligation.

BREVITY—Identify by IEN - 6097 if you write the maker

TESTING . . Accelerometer pickup actuates electronic recorder, indicator

Source: GULTON MFG. CORP.
210-14 Durham Ave., Metuchen, N. J.

Glennite piezoelectric ceramic element is mounted in a self-centering suspension in the housing of this new Model-A403 pickup assembly. The head has a flanged base, $1\frac{1}{8}$ in. in diameter. It measures ¾ in. in height and weighs 1 ounce. It is designed to be anchored by its flange in perpendicular arrangement in relation to the imposed high-frequency shock or vibration that is to be measured. A 4-ft. shielded cable is supplied for connection to the measuring equipment supplied by the user.

Useful frequency range is 3 to 4,000 cycles. Acceleration range is .1 to 600g. The head is calibrated at 2g from 20 to 1,500 cycles. Sensitivity is 10mv/g. Actuating movement is in compression on the ceramic element.

BREVITY—Identify by IEN - 6098 if you write the maker

CLEANING . . Liquid detergent for floors, walls and general cleaning

Source: J. I. HOLCOMB MFG. CO.
R. R. 17, Box 134-A, Indianapolis, Ind.

Applies with hot or cold water

Floats-Off trade names new liquid detergent supplied in concentrated form with an added component to cut through grease and soil. One part mixes with 32 parts of water. Application is by wiping, the solution loosening the dirt and rinsing it away. There is no alkali or acid.

BREVITY—Identify by IEN - 6099 if you write the maker

SIGNALING . . Flashing light attracts attention in sign assembly

Source: WINKO-MATIC SIGNAL CO.
748-52 Broadway, Lorain, Ohio

A new **motor** for constant-duty service is now standard equipment in the company's flashing-light mechanism. It has been on the market for some time as a unit to apply in warning signs of various types or as a complete assembly with a specified sign. The light mechanism is in a steel weather-tight housing to be molded or welded to a sign structure. It is equipped with a red or amber lens and takes a standard 50-watt traffic lamp. Operation is on 110-volt ac. for motor and lamp. A radio suppressor is standard equipment. A pair of the units provide an alternating attention-getting flash signal for a warning sign.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6100 if you write the maker

TIMING TESTS PROVE A BRUNING DRAFTING MACHINE CAN INCREASE DRAFTING SPEED 40%. IT COMBINES T-SQUARE, TRIANGLES, STRAIGHTEDGE, PROTRACTOR, AND SCALES. IT SAVES TIME WASTED IN HANDLING TOOLS—MAKES ACCURACY AUTOMATIC.

WRITE TODAY FOR BOOKLET A-1055

BRUNING
CHARLES BRUNING COMPANY, INC.
Dept. N-41, 100 Reade Street • New York 13, N. Y.

BREVITY—Identify by IEN - 6101 if you write the maker

NEPTUNE AUTO-STOP METERS

AUTOMATIC METERING *pays off!*

Wherever liquids feed into processes, these new batching meters save ingredients, hit formulas "on the nose," eliminate unsanitary conditions, and provide accurate cost figures. Save time, too! Simply push buttons to set the meter, open the valve, and the Auto-Stop cuts off at exactly the right quantity. No more gauge sticks, batch tanks or buckets. Auto-Stop sizes 1", 1½" and 2" for water, syrups, oils, and other liquids. Ask for facts—just telephone Neptune office nearest you.

NEPTUNE METER CO. • 50 WEST 50th STREET • NEW YORK 20
Atlanta • Boston • Chicago • Dallas • Denver • No. Kansas City • Louisville • Los Angeles • Philadelphia • Portland • San Francisco

BREVITY—Identify by IEN - 6102 if you write the maker

SPEED UP

Pangborn

Hydro-Finish is versatile! Use it to speed up cleaning, polishing and finishing of molds and dies as well as production line work.

Hydro-Finish saves you time, labor and money. Scale and discoloration are removed in *minutes* instead of hours. Cleaned surfaces are virtually free of directional grinding lines. Costly hand work is greatly reduced. No danger of excessive metal removal because tolerances are held to .0001". Fine mesh abrasives suspended in water do a precision job.

Find out how Pangborn Hydro-Finish improves product quality, increases tool and die life! For full details, write today for Bulletin 1400A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Md.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment.

Pangborn
BLAST CLEANS CHEAPER
with the right equipment for every job

BREVITY—Identify by IEN - 6104 if you write the maker

THERE'S NEWS FOR YOU IN THIS TUFFLEX SAMPLE KIT

Manufacturers all over the country are solving design problems, simplifying production, achieving new economies, increasing salability—with TUFFLEX, the remarkable fiber felt. There's practically no end to TUFFLEX versatility. It cushions. It protects. It absorbs sound—dampens vibration. It insulates. It die cuts with firm, true edges. New applications are turning up constantly. Perhaps TUFFLEX can solve a problem for *you*. Send now for free sample kit, containing TUFFLEX samples and giving specifications! Wood Conversion Company, Dept. 126-61, First National Bank Bldg., St. Paul 1, Minnesota.

WOOD CONVERSION COMPANY

BREVITY—Identify by IEN - 6105 if you write the maker

Why—THE ROLLAWAY SKID AND JACK SYSTEM for efficient MATERIALS HANDLING?

Because...

- *It is Economical*
  One jack and ten skids cost no more than one hand lift truck and two skids or six four wheel warehouse trucks. And there is very little maintenance.
- *It Saves Floor Space*
  Its right angle steer provides shortest turning radius to maneuver in the narrowest aisles and around machinery. Jack can be engaged or removed with only 18" of clearance. Skids may be stored on end or stacked, when not in use.
- *It is Safe*
  Loaded skids will remain static on inclines or road truck bed. Balanced handle always up out of the way when load is elevated. Disconnecting action is foolproof.
- *It Saves Time*
  Due to low cost of jack, it is convenient to have one at several handy locations.
- *It is Versatile*
  Four standard widths of skids, with lengths to suit your load.
- *It Has Been Proven*
  Rollaway semi-live skids and jacks have been time tested in modern plants the world over. It has all the features required for quality performance.

Write for descriptive bulletin

LANHAM FOR LIFETIME

THE LANHAM COMPANY
1405 S. 12TH STREET • LOUISVILLE, KENTUCKY

BREVITY—Identify by IEN - 6107 if you write the maker

ELEVATOR . . Hydraulic table with motor driven pump, rates 1 ton

Source: LYON-RAYMOND CORP.
35-80 Madison St., Greene, N. Y.

New assembly of the company's plate-mounted elevating table includes a hydraulic pump driven by a ¾-hp. motor. The pump develops 1,000-lb. pressure which it applies against a ram measuring 1½ in. in diameter for a vertical movement of 22 inches. The pump draws oil from its built-in reservoir which has a capacity of 2½ gallons.

Control can be specified by a foot switch or a pushbutton hand switch. Lowered elevation above the floor for the 30-in. square top is about 22 inches. Casters can be specified for portable application, in which case lowered elevation is 28 inches.

BREVITY—Identify by IEN - 6108 if you write the maker

TURNTABLE . . For display uses, motor drives 10 in. disc at 2 rpm.

Source: GALE DOROTHEA MECHANISMS
81-03 Broadway, Elmhurst, N. Y.

Turn-More is a new low-price turntable with a sealed synchronous motor drive for operation on 110-volt, 60-cycle ac. The unit stands 2⅜ in. in height, takes the load weight on a ball bearing, employs an off-center drive in which the motor connects to a mounted gear that does not have any part in load support. Rating is to a 5-lb. load for horizontal rotation, to a 1-lb. load for vertical rotation.

BREVITY—Identify by IEN - 6109 if you write the maker

TESTING . . Combination refrigerator and heater, for temperature testing

Source: ELECTRO MECHANICAL DEVICES DIVISION
19253-57 W. Davison, Detroit 23, Mich.

New stand assembles refrigerating and heating equipment in connection with a deep well into which work assemblies, measuring not more than 6 by 6 by 8 in., can be introduced for test in a temperature range between minus 70 and plus 230 deg. F. Hot-Cold Test Stand is the designation. A temperature selector is included in the assembly. Overall dimensions of the new stand are 54 by 30 by 40 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6110 if you write the maker

FOR SPEEDY INSTALLATION...

WITH MINIMUM INTERRUPTION OF WORK.....

Count On CLOW (Threaded)* CAST IRON PIPE

WHEN YOU REPLACE OR EXPAND. Leading engineering firms specify Clow Threaded Cast Iron Pipe for downspouts, waste and vent lines because of its corrosion-proof qualities and lifetime service.

Clow Threaded Cast Iron Pipe can be cut and threaded on the job with ordinary tools of the piping trade. Available with plain or threaded ends in 3, 4, 5, 6, 8 and 10" sizes in 18' lengths. Also furnished with integral calking hub on one end (other end plain) in 4, 6 and 8" sizes.

Write for Form 4-26-50 to: JAMES B. CLOW & SONS, 201-299 N. Talman Ave., Chicago 80, Illinois.

*Has the same outside diameter as steel or G.W.I. pipe

JAMES B. CLOW & SONS
Wholesale Distributors of Pipe, Valves and Fittings for Industrial Use

BREVITY—Identify by IEN - 6111 if you write the maker

THIS ELEVATOR BUCKET *CANNOT FAIL* TO EMPTY

ON *EVERY* TRIP!

PEKAY Self-Cleaning **BUCKETS** *can't* retain Sand-Coal-Gravel or other granular materials, even if close-packed. Separately mounted Stripper-Plate *must* push up and out when it starts over pulley radius . . . gives irresistible leverage to dislodge and sweep out bucket contents. **CONTROLLED-CAPACITY DELIVERY . . . MORE MATERIAL AT SAME OR FASTER BELT SPEEDS . . . .** *Easy to Install . . Saves Belts . . Cuts Maintenance.* **THOUSANDS NOW IN USE.**

★*Send for prices today—Quick delivery—(Give present bucket size)*

PEKAY MACHINE & ENGINEERING CO.
100 N. LASALLE ST. • CHICAGO 2, ILLINOIS

BREVITY—Identify by IEN - 6112 if you write the maker

This carload of pipe, secured with 8 ga. Gerrard Steel Strapping, conforms with Figure 82 of the Association of American Railroads' pamphlet on open cars.

Pipe also rides safely when tied with GERRARD STEEL STRAPPING

● Gerrard Round Steel Strapping makes a safe, tight reinforcement for railroad and truck shipments of oil well tubing (photo above), pipe, plate, drums and machinery. The firm, strong grip of Gerrard Steel Strapping keeps torsional sway at a minimum, and will hold your shipments securely until they reach their destination.

Gerrard Strapping itself costs about 40% less than any other metal reinforcement. And cost studies show that pipe can be secured on open cars at a saving of 36% to 47% when Gerrard Round Steel Strapping is used.

A Gerrard engineer will gladly give you the full story about the Gerrard Method of Strapping. His advice is yours without obligation. Write for a free copy of *Blue Book of Packaging*. **Gerrard Steel Strapping Company, 4701 South Richmond Street, Chicago 32, Ill.**

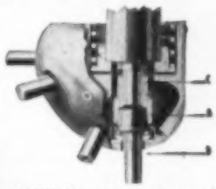
USS GERRARD Round Steel Strapping

UNITED STATES STEEL

BREVITY—Identify by IEN - 6113 if you write the maker

MORE HOLES PER HOUR—PER DOLLAR

Increase production of any standard drilling machine by adding a Lign-o-matic, the *only* drill turret with the patented, self-centering principle that guarantees sustained accuracy equal to the drilling machine itself.



FOR ALL CONSECUTIVE DRILL PRESS OPERATIONS

PROVED PRODUCTION INCREASE — Turret indexes faster than tools can be changed or work moved to another spindle. A single Lign-o-matic will release 5 drilling machines for other work and still show increased production and reduced costs on original job.

VERSATILITY—Fits any standard drilling machine without altering the machine. Handles operations such as drilling, reaming, counterboring, and tapping (on reversible spindle machines), up to ½" diameter in any material.

PRECISION — Patented, self-centering tapered drive (A) automatically locks turret spindle (B) into exact alignment with drilling machine spindle (C) for sustained accuracy.

GUARANTEE — May be returned in 10 days for any reason for full refund of purchase price. Two-year guarantee against defective parts.

PRICE — Model D, 6 spindles with No. 2 Jacobs male taper $235.00
Chucks extra at established prices.

DELIVERY — Currently, 2 weeks.

☐ Please rush ..... Lign-o-matic turrets for
(drill press make)..... (size).....
(quill dia.) ..... (spindle taper) .....
My name .....
Title .....
☐ Please send literature on Lign-o-matic turret.
(Attach coupon to company letterhead)

HOWE & FANT, INC.
524 FLAXHILL RD., SO. NORWALK, CONN.

BREVITY—Identify by IEN - 6114 if you write the maker

Saves Time on light and HEAVY Work

250-Watt WELLER SOLDERING GUN

You need no other soldering tool. 5-second heating saves time on every job. Heat is instantly on . . . instantly off with trigger-switch control. Power-and-hours saved pay for your Weller Gun in a few months.

- TRIGGER-SWITCH CONTROL—No need to unplug gun.
- 5-SECOND HEATING—No waiting.
- WELLERTIP—Rigid and braced for heavy duty.
- SOLDERLITE—Prefocused spotlight.
- LONGER REACH—Gets into tightest spots.
- DUAL HEAT—Single heat 200 watts; dual heat 200 250 watts; 120 volts, 60 cycles.

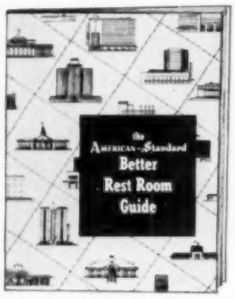
Order your 250-watt Weller Soldering Gun from your distributor today, or write for bulletin direct.

WELLER ELECTRIC CORP. 823 Packer Street, Easton, Pa.

SOLDERING GUIDE. Get your new pocket copy of "Soldering Tips"—revised, up-to-date, fully illustrated 20-page booklet of practical soldering suggestions. Price 10c at your distributor, or order direct.

BREVITY—Identify by IEN - 6115 if you write the maker

Fact-filled Booklet



shows you how to make women's rest rooms more efficient, easier and less expensive to maintain

with the Sanistand fixture

● In planning women's rest rooms in factories, there are two important points that you should consider: first, they should be arranged to handle, without overcrowding, a large number of women in the shortest possible time . and second, they should be easy to keep sanitary with a minimum of work and expense.

SEND FOR THIS FREE BOOKLET! In it you'll find many helpful suggestions and information on rest room fixtures, maintenance and arrangement . . . including complete details on the Sanistand, the new American-Standard urinal for women. This fixture, made of non-absorbent, easy-to-clean, genuine vitreous china, has an extended lip, ample bowl and slanted rim to discourage misuse. The Sanistand fixture reduces traffic congestion, makes rest rooms more attractive to women employees, and pleases maintenance crews with the greatly reduced cleaning burden. When used in modernization work, the Sanistand urinal can easily be installed with regular water closets.

American Radiator & Standard Sanitary Corporation
Dept. IEN-6, Pittsburgh 30, Pa.
Please send me, without obligation, copy of the American-Standard Better Rest Room Guide.
Name .....
Address .....
City ..... State .....

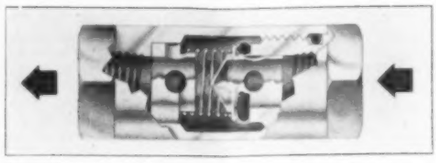
AMERICAN-Standard
First in heating . . . first in plumbing

Serving home and industry: AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

BREVITY—Identify by IEN - 6117 if you write the maker

VALVE . . Plunger type check unit operates on 4 to 8 inches of water

Source: JAMES-POND-CLARK
Green St. at Chester, Pasadena 5, Calif.



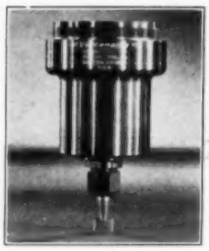
Opening and closing on very low pressure differential characterizes the action of this new check valve. Cracking pressure is 4 to 8 in. of water column. The valve closes on reverse pressure with the aid of a backing spring. It holds bubble-tight against reverse flow to its maximum 100-lb. rating. Construc .on is in brass, aluminum or other materials to specification. Four sizes are ¼ to ¾ in. with overall length of 1¾ to 3⅜ in. and diameter of ¾ to 1¾ inches.

The cup-shaped poppet rides in a sleeve carrying a recessed shoulder at its inner end on which an O-ring is assembled. A circular knife edge integral with a collar on the poppet presses into this ring to seal against back-flow. The shoulder on the sleeve contacts the poppet to limit its movement so it impresses the knife edge into the rubber by only a few thousandths of an inch. The valve represents a new development in the company's Circle-Seal line in which a standard design of check valve was previously described IEN-10224-50.

BREVITY—Identify by IEN - 6118 if you write the maker

GRINDING . . Pneumatic head for precision work as in jig grinding

Source: VULCAN TOOL CO.
728 Lorain Ave., Dayton 10, Ohio



New design of the company's Vulcanaire pneumatic head, previously described IEN-9322-48, is assembled in a housing measuring about 3¼ in. in overall length. The rear face carries threads for application in a suitable adapter through which compressed air is introduced. The air passes through the housing, drives the rotor and spindle on their preloaded ball bearings. Air exhaust at the front face is in axial direction where it is dissipated. Speed control is by regulating the air pressure in a range between 30 lb. for 30,000 rpm. to 100 lb. for 70,000 rpm.

The spindle takes collets ranging from 1/16 to ¼ inch. The largest ¼-in. shank will take a mounted wheel measuring ½ in. in diameter for safe operation. An arbor can be employed in place of the collet for hole depth to 2½ inches. It is possible to maintain a 10 micro-inch finish using carbide mills and a 6 micro-inch finish using mounted points.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

FIND WHAT YOU WANT?
All products are listed in the index, page 114

BREVITY—Identify by IEN - 6119 if you write the maker

Keep present employees on the job . . . attract new employees . . . with *good* ventilation. *Out* with odors, fumes, steam, and excess heat. *In* with fresh, invigorating air.

Extra-powerful, *extra*-quiet ILG Self-Cooled Motor Propeller Fans can be quickly installed in wall, window or penthouse with automatic shutter. Phone nearby Branch Office (consult classified directory), or send inquiry card.

ILG ELECTRIC VENTILATING CO. CHICAGO 41, ILL.
2812 North Crawford Avenue
Offices in more than 40 Principal Cities
FREE! New 8-Page Bulletin No. 310

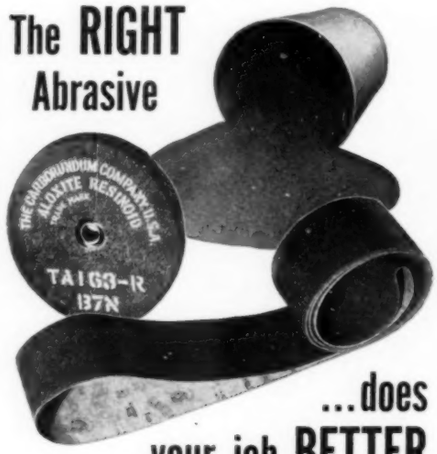
ILG VENTILATION for rapid air change

BREVITY—Identify by IEN - 6120 if you write the maker

THE EAGLE LOCK COMPANY • • • TERRYVILLE, CONNECTICUT
Subsidiary of Bowser, Inc.

BREVITY—Identify by IEN - 6121 if you write the maker

The RIGHT Abrasive



. . . does your job BETTER

Whether you are grinding billets, polishing stock or finishing parts, the *right* abrasive will help you get the job done better. You can be sure the right abrasive is on hand for the operator to use by filling your requirements from a *complete* abrasive line. Only CARBORUNDUM makes a *complete* line of abrasive products from which selection can be made of the one best suited to a specific operation.

INDUSTRIAL CLOTH BELTS set production and economy records in finishing high and low tensile strength metals. One manufacturer reports 50% more bronze castings ground—a typical example.

RUBBER BUSHED TYPE T PORTABLE GRINDING WHEELS lessen operator fatigue by dampening wheel vibration . . . increase production efficiency by reducing wheel "bounce."

ALOXITE TPC *aluminum oxide grain* gives best production results in many metalworking operations where it's not practical to stock several types of grain.

Write Dept. IEN 80-18.

Only CARBORUNDUM TRADE MARK

makes **ALL** *abrasive products . . . to give you the proper* **ONE**

"Carborundum" and "Aloxite" are registered trademarks which indicate manufacture by The Carborundum Company, Niagara Falls, N. Y.

BREVITY—Identify by IEN - 6123 if you write the maker

need d-c solenoids?

Typical Soreng d-c solenoid for 6-volt operation. Double-acting plunger gives ⅛" stroke in each direction, developing force of 25 to 50 lbs. Currently being manufactured for a leading farm implement manufacturer.

Soreng Builds 'Em to Do A BETTER Job—LONGER!

When it comes to performance, Soreng d-c solenoids do a *real* job! That's because they incorporate *exclusive* design features that assure—

- **More work with the most efficient use of copper and steel**
- **Elimination of the bottle-necks usually found in magnetic circuits**
- **Lowest practical weight and smallest size consistent with required work output**
- **Huskier construction for longer service life**
- **Lower cost**

With advantages like these, it's no wonder so many of the country's major manufacturers rely on Soreng for solenoids that do a better job—longer. Want more information? Write, without obligation, to Dept. A16.

America's Largest Manufacturer of Solenoids

SORENG MANUFACTURING CORPORATION
9555 Eden Ave., Schiller Park, Ill. (Chicago Suburb)
Plants: Schiller Park, Ill. • Fremont, Ohio.

BREVITY—Identify by IEN - 6124 if you write the maker

HELPS "PIPE DANCE" IN BOILER OPERATION

(Cross sectional view, showing Penflex tubing encasement on steel feed pipes from hopper.)

PENFLEX TUBING ABSORBS THERMAL EXPANSION

Penflex tubing was recommended as an outer protective encasement for the rigid steel tube that comes down from the hopper. Lengths of 70" and 78" I. D. interlocking, galvanized steel tubing were installed. Now the steel pipes from the hopper virtually "float" at one end when thermal expansion occurs. Penflex tubing forms a flexible seal between hopper and tube, assuring protected delivery of powdered fuel.

Penflex manufactures a complete line of four wall, interlocking and seamless welded corrugated flexible tubing . . . metallic hose, tubing or couplings from ¼" I. D. and up . . . automatic barrel fillers, pneumatic rivet poppers. Write for folder, "Engineering."

Pennsylvania Flexible Metallic Tubing Co., 7200 Powers Lane, Phila. 34, Pa. Branch Sales Offices: Boston • New York Chicago • Houston • Cleveland • Los Angeles

penflex
HEART OF INDUSTRY'S LIFE LINES

BREVITY—Identify by IEN - 6125 if you write the maker

POSITIVE GRIPS

THE "HAMMER-LOCK" and Electroline FITTINGS

The "Hammer-Lock" has long been a favorite grip of wrestlers. But just as popular, in Industry, is the Electroline Fitting . . . these safe, economical, permanent wire-rope connectors may be installed by unskilled labor in a matter of minutes with ordinary mechanic's tools.

Electroline Fittings slash re-roping costs—and prolong wire-rope life by damping vibration stresses and overcoming rope fatigue at entrance to the fitting. Send for catalog describing "positive-grip" Electroline Fittings!

Electroline Company
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

BREVITY—Identify by IEN - 6126 if you write the maker

GENERATOR . . Variable frequency, rates to 15 kva. and to 2,400 cycles

Source: AMERICAN ELECTRIC MOTORS INC.
4809-13 Telegraph Road, Los Angeles 22, Calif.

New design of high-frequency induction alternator employs a belt-connected Sterling Speed-Trol variable-speed transmission for frequencies to 2,400 cycles. The alternator is available in ratings to 15 kva. as a power supply for electronic equipment such as induction heaters, calculators, radar, X-ray equipment. It also will supply current for motor operation on high-speed machines, tools and instruments in which the machine's driving motor is high frequency.

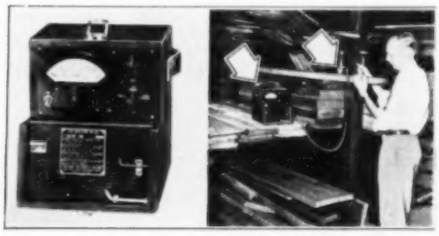
The equipment produces alternating voltage by rise and fall of unidirectional flux in the ac. armature due to movement of inductors past the armature coil. Total flux remains constant and is produced by the dc. excitation coil.

An electronic exciter-regulator in the rectangular housing, to the left in the illustration, supplies dc. to the alternator field and maintains constant terminal voltage as load is applied. The exciter operates by rectifying 60-cycle power and delivering dc. to the alternator field. The regulator rectifies the alternator output voltage, compares it to a standard dc. voltage and controls the exciter so the correct amount of dc. is fed into the alternator field.

BREVITY—Identify by IEN - 6127 if you write the maker

TESTING . . Moisture meter for wood, plaster, penetrable materials

Source: TAGLIABUE INSTRUMENTS DIVISION
610 Frelinghuysen Ave., Newark 5, N. J.



Model 8008 is a new battery-operated or circuit-powered instrument in the company's Moisturonic line. For circuit operation the unit connects into a 110-volt 60-cycle ac. line. It has a resistance range between 2,000 and 20,000 megohms and is available in two assemblies.

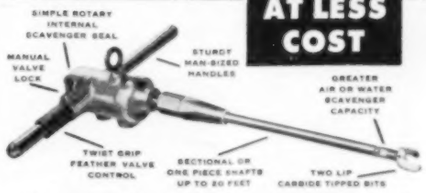
One has a double calibrated scale for direct reading to 30 per cent and for comparative readings above 30 per cent in wood. The other is uncalibrated and is designed also with a double scale on which a user can establish his own calibration for given materials. The meter can be applied on any material into which its probes can be penetrated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6128 if you write the maker

WILSON MODEL TP-301 even cleans plugged tubes does regular jobs faster

AT LESS COST



Wilson now brings you the fastest, most economical straight tube cleaner on the market. It is the only one which immediately removes deposits from completely plugged heat exchanger tubes. Model TP-301 is more powerful, lighter, only 15 lbs.—shorter, only 15" overall. It cleans tubes from ⅜" up to 2½" or even 3" O.D. It operates on air pressure as low as 50 lbs. Its low cost and adaptability will pay off in reduced "downtime."

THOMAS C. WILSON, INC. 21-11 44th Ave., Long Island City 1, N.Y.

TW-704 **WILSON** CABLE "TUBECLEAN" NEW YORK

WILSON TUBE CLEANERS
WILSON-DUDGEON TUBE EXPANDERS

BREVITY—Identify by IEN - 6129 if you write the maker

Glass container manufacturer reports increase in production . . . decrease in costs

● When this glass firm installed Cyclone special alloy Flat Wire Conveyor Belts on its lehrs, production was speeded up and breakage was reduced. Because of the lighter, more open construction of these belts, less power is required to drive them and there is less steel to heat, reducing gas consumption.

Why not investigate the possibility of using Cyclone Metal Conveyor Belts in your plant? Our engineers have 25 years' experience in specifying conveyor belt installations. They will be glad to help you — without obligation. And write for a copy of free Catalog 94.

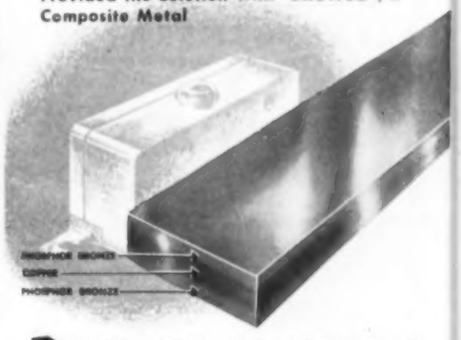
CYCLONE FENCE DIVISION
(American Steel & Wire Company)
DEPT. C-61, WAUKEGAN, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

CYCLONE METAL CONVEYOR BELTS
UNITED STATES STEEL

BREVITY—Identify by IEN - 6130 if you write the maker

PROBLEM:
How to Get Better Electrical Conductivity in a Switch Spring

GENERAL PLATE:
Provided the Solution with "BRONCO", a Composite Metal



A well-known manufacturer of small switches needed high electrical conductivity in a spring. Solid phosphor bronze would be too thick or would heat up too much.

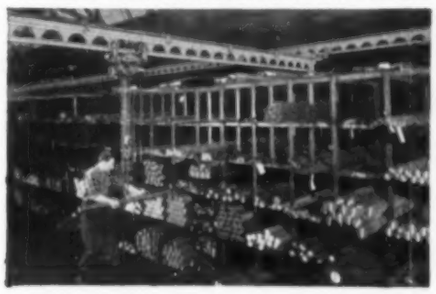
The problem was presented to General Plate engineers who quickly provided the solution with "BRONCO" strip, a double clad metal—phosphor bronze on copper. The desired electrical conductivity was obtained, the spring size was maintained.

No matter what your metal problem, it will pay you to consult with General Plate. Their vast experience in cladding precious to base metals or base to base metals can overcome your problems . . . often reduce costs. Write for information.

Have You a Composite Metal Problem? General Plate can solve it for you

GENERAL PLATE
Division of Metals & Controls Corp.
706 Forest St., Attleboro, Mass.

BREVITY—Identify by IEN - 6131 if you write the maker



20 FOOT BARS
Stored and Handled Efficiently

Simple, inexpensive overhead tramrail cranes make it easy to handle long, unwieldy bars and store them in racks where readily found. One man can easily and quickly place a heavy bar into or take out of storage and deliver to any point covered by the crane.

GET THIS BOOK!

Wherever materials are moved Cleveland Tramrail offers possibilities of tremendous savings.

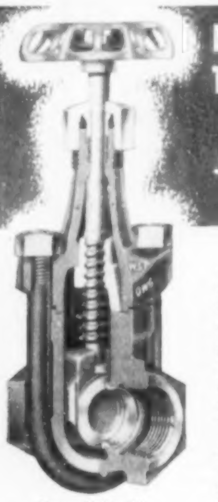
CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4221 East 285th Street, Wickliffe, Ohio

CLEVELAND TRAMRAIL

▼ BREVITY—Identify by IEN - 6132 if you write the maker ▼

DESIGNED FOR TROUBLE-FREE SERVICE

JENKINS U-BOLT GATE VALVE



Sizes — ¼" to 3"
Bronze Mounted or All Iron

16 Advanced Features

You can't beat the Jenkins U-Bolt Gate for simplified design, rugged construction, and economical maintenance. Removable Bonnet-Saver Bushing can be renewed when threads become worn, restoring entire bonnet to original efficiency. Cleaning is easier with removable bushing.

These features—plus many others—make the Jenkins U-Bolt Gate a favorite for any services where extra endurance and easy maintenance are essential. Jenkins Bros., 100 Park Ave., New York 17.

Complete details and specifications on request

LOOK FOR THIS DIAMOND MARK

JENKINS VALVES

TYPES, SIZES, PRESSURES, METALS FOR EVERY NEED

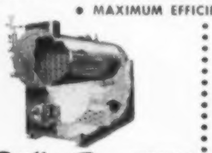
▼ BREVITY—Identify by IEN - 6133 if you write the maker ▼

REDUCE! YOUR STEAM COSTS!

WITH A Dutton "PACKAGED"

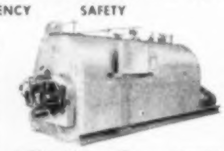
STEAM GENERATOR

• LONG LIFE • LOW OPERATING AND MAINTENANCE COST • MAXIMUM EFFICIENCY SAFETY



Dutton EconoTHERM

A highly efficient horizontal return tube type, assembled in portable casing and ready for firing on arrival. Dutton improved shell design and double size full length, high bricked firebox, give faster steaming and longer steam carry-over with less fuel consumption. Burns oil, gas or coal with high efficiency—easily converted from one fuel to another. Available as a package unit with firing equipment, controls and mechanical draft with short stack.



Dutton EconoMIST

Completely self-contained, automatically operated, 3-pass modified Scotch Internal Furnace type which gives twice the power in half the usual space. Features such as the Dutton Off-Center Firing and Rotary Combustion assure faster steam and more steam with less fuel consumption and greater safety. Burns gas or oil.

Let us help select the best type for you.

Write for catalog IE-651 on "Packaged" STEAM GENERATORS.

Dutton BOILER DIVISION
HAPMAN-DUTTON COMPANY • KALAMAZOO, MICH.
Boiler Makers Since 1880

▼ BREVITY—Identify by IEN - 6134 if you write the maker ▼

DO YOU WANT FORMULA CONTROL?

ROCKWELL INDUSTRIAL METERS
MEASURE ALL THESE LIQUIDS AND MORE!

Acetone
Alcohols
Ammonia, anhydrous
Ammonia, aqueous
Amyl Acetate
Asphalt, hot liquid
Beer
Benzene
Benzol
Brines
Butane, liquid
Carbon Tetrachloride
Caustic Soda solutions
Coal Tar
Cod Liver Oil
Cotton Seed Oil
Creosote Oil
Cresol
Cresylic Acid
Cutting Oil
Cyanide Solutions
Duco Thinners
Fuel Oil
Gasoline
Gin
Glycerine
Grease, lubricating
Hot Water
Kerosene
Lacquer Thinners
Linseed Oil
Lubricating Oil
Molasses
Naphtha
Oil, mineral
Prestone
Propane, liquid
Rum
Soap, liquid
Sodium Carbonate, solution
Sodium Hydroxide, solution
Toluene
Trichloroethylene
Thinners
Turpentine
Varnish
Water
Whiskey
Wine

Get highest accuracy when handling, blending, processing, liquids. Get Rockwell meters, performance-proved to stop waste; to save materials, labor, money. Sizes ⅝" through 3". Choice of registers. Bulletin free.

ROCKWELL
MANUFACTURING COMPANY
PITTSBURGH 8, PA. Dept. B

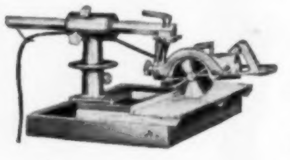
CHECK . . .

. . . products you wish to measure, tear out ad and mail with name and address as an inquiry.

▼ BREVITY—Identify by IEN - 6135 if you write the maker ▼

WOOD WORKING . . Radial arm mounts company's portable circular saw

Source: SKILSAW INC.
5039 Elston Ave., Chicago 30, Ill.



Base, column, slide arm and 8½ by 40-in. work table make up this new assembly. It takes several models in the company's line of portable circular saws to form a machine with capacity at 17 or 18 in. in width and 2½ to 3 in. in vertical cut depth depending on the saw. Maximum vertical adjustment is 6½ inches.

The arm can be extended through 22½ in. in horizontal direction. It rides on eight ball bearings in the column head. There is provision to adjust radially to 45 deg. to the hight or left and for bevel cutting at any angle to 45 degrees. List price for the attachment is about $150.

▼ BREVITY—Identify by IEN - 6136 if you write the maker ▼

ADHESIVE . . Liquid primer secures silicone rubber to metals

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

For shock and engine mounts

GE-81267 is a new liquid primer for application by brush, dip or spray on a metal surface that has been cleaned to remove grease and dirt. The film is allowed to air dry for 20 min. and then is rinsed with water and dried. A metal surface that has been primed can be molded under pressure at 125 deg. C. against freshened GE. high-strength silicone-rubber compound. A bond is produced between the metal and the rubber which has greater strength than the rubber itself. Application can be made on aluminum, copper, steel, tin and to bond the silicone rubber to ceramics and glass. Shear strength is approximately 700 lb. per square inch.

▼ BREVITY—Identify by IEN - 6137 if you write the maker ▼

VALVE . . Lubricated plug design with worm and gear hand operation

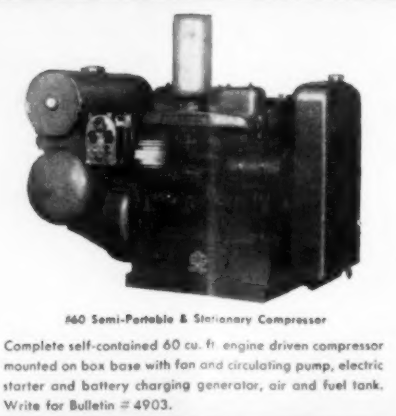
Source: HOMESTEAD VALVE MFG. CO.
P. O. Box 550-A, Coraopolis, Pa.

Figure 502-GW is new addition to the company's line of Homestead-Reiser lubricated plug valves employing a patented Self-Seald construction. The valve is made of semi-steel. It will be available also in cast steel under the designation Fig. 562-GW. A venturi type, in sizes to 14 in., will have face dimensions identical to those of the Series-15 wedge-gate design. These will be designated Fig. 512-GW for semi-steel, Fig. 572-GW for steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

▼ BREVITY—Identify by IEN - 6138 if you write the maker ▼

SCHRAMM *Unistage* AIR COMPRESSOR



#60 Semi-Portable & Stationary Compressor

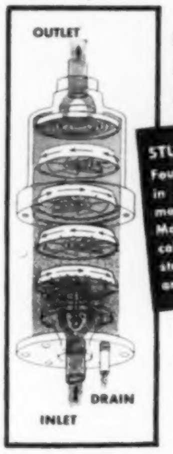
Complete self-contained 60 cu. ft. engine driven compressor mounted on box base with fan and circulating pump, electric starter and battery charging generator, air and fuel tank. Write for Bulletin #4903.

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▼ BREVITY—Identify by IEN - 6139 if you write the maker ▼

Why does an **ARIDIFIER**

REMOVE 92% OIL, WATER AND DIRT FROM GAS AND AIR LINES?



STUDY EXPLODED VIEW FOR ANSWER
Four multi blade rotors revolve at high speed in opposite directions under impact of air movement through non-aligned rotor spaces. Moisture, dirt and other foreign matter which collect on rotor blades are thrown out of air stream by centrifugal force to side of housing, and pass into drain.

For paint and lacquer spraying, ceramic, sand blasting, air cleaning, etc. Easily replaces less efficient baffle type devices. Tell us details of your problem when you write for a catalog.

CAPACITY RANGE: AS LOW AS 7 CFM TO 17,000 CFM

Made By The Manufacturers of Logan Lathes and Shapers.

Logan ENGINEERING CO.
4902 W. LAWRENCE AVE., CHICAGO 30, ILL.

▼ BREVITY—Identify by IEN - 6140 if you write the maker ▼

LOOK JOE !... Make These Cuts with a CLIPPER...Let's Stop "DOWN-TIME" Delays!

NINE MODELS PRICED FROM $265

Any **SPECIAL SHAPES**
SKEWS, SPLITS, ANGLES, SOAPS

CUT IN SECONDS WITH A *DUSTLESS...* CLIPPER MASONRY SAW

PERFECTLY SMOOTH CUTS
ELIMINATE HIDDEN FRACTURES, EXCESS MORTAR & DOWN-TIME

Speed REPAIR or CONSTRUCTION of your Furnaces, Kilns and Boilers by using a CLIPPER MASONRY SAW

***DUSTLESS...*MASONRY CUTTING**

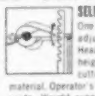
With the MODEL HD CLIPPER you can choose your cutting method...cut DUSTLESS (wet) in confined areas or DRY when DUST is not a problem. Remember too, there are NINE Clipper Models designed to perform with smooth simplicity and flexibility.

Free Trial

The outstanding policy of FREE TRIAL has been in effect since Clipper invented the world's first masonry saw. Only thru this CLIPPER FREE TRIAL are you guaranteed . . . ACTUAL TEST ON THE JOB . . . FULL SATISFACTION . . . NO OBLIGATION!

PATENTED CLIPPER FEATURES

AUTOMATIC BLADE PRESSURE Makes your blades last longer . . . Because Equalizer Spring Automatically cushions blade pressure whether cutting HARD or SOFT materials; gives greater blade economy.



SELECT-A-NOTCH One man easily adjusts Cutting Head to desired height . . . whether cutting 12" or 1" material. Operator's hands merely guide. Weight supported by rear Bar.

SAVE-A-BLADE DIAL Just turn the Save-A-Blade Dial to the material hardness and the pressure Equalizer Spring automatically sets the tension—guarantees faster cutting and longer blade life.

Clipper NATION WIDE DIRECT FACTORY SERVICE

FOR CUTTING CONCRETE—ASPHALT BUILDING FLOORS—STREETS—WALKS
CLIPPER CONCRETE SAWS . . .
5 MODELS—GAS OR ELECTRIC POWER

MANUFACTURING CO.
KANSAS CITY 8, MISSOURI
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PITTSBURGH	PHILADELPHIA
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TEAR OUT AND MAIL!

CLIPPER MANUFACTURING COMPANY
11 E. 28th St. • Kansas City 8, Mo.
Send FREE Information and Literature on:

☐ NEW CLIPPER MASONRY SAWS ☐ CLIPPER CONCRETE SAW
☐ DUSTLESS Model HD ☐ FREE TRIAL

NAME ______
ADDRESS ______
CITY ______ STATE ______

BREVITY—Identify by IEN - 6142 If you write the maker

USE STAINLESS STEEL FLOATS

...IN THE PRODUCTS YOU BUILD

Manufacturers-equip your products with the finest floats available—*Stainless Steel Floats* from Chicago Float Works. Your product can have no better assurance of long trouble-free float performance. You get all of the plus values of *Stainless Steel* along with Chicago Float Work's more than thirty years of specialized experience in engineering and building floats for industry.

....check these features

CORROSION RESISTANCE. *Stainless Steel* stands up better under severe services in many different kinds of corrosive fluids.

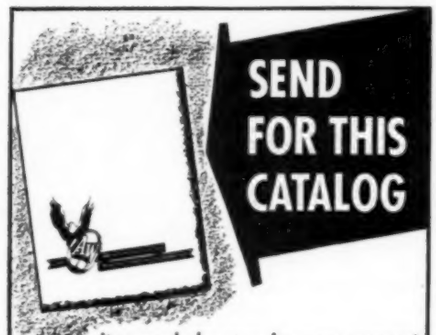
EXTREME STRENGTH. Will withstand pressures up 1000 lbs. Temperatures to 800° F.

LIGHTER. Less weight affords more buoyancy making for more positive float action.

COMPLETE LINE. Diameters 3 to 10 in. Special sizes to order — standard or special float connections. Write for catalog giving sizes, shapes, spud connections, and complete engineering data.

CHICAGO FLOAT WORKS, INC.
2326 S. Western Ave., Chicago 8, Illinois

BREVITY—Identify by IEN - 6143 If you write the maker



SEND FOR THIS CATALOG

It may help you in your present or future production problems

The wide scope of fabrication-by-welding of components and finished parts produced by American Welding is covered in this catalog. We have the "know-how" and the "know-why" because we've been at it for over thirty years. Let us send you a copy—it may lead to definite savings in your present and future products.

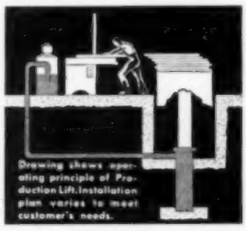
Pictorially illustrates American Welding's research, engineering, and production facilities available to manufacturers whose products lend themselves to any welding procedure.

THE AMERICAN WELDING & MANUFACTURING CO.
WARREN, OHIO

BREVITY—Identify by IEN - 6144 If you write the maker

Globe Production Lifts

Speed machine-feeding jobs; reduce waste-motion, lessen fatigue



Drawing shows operating principle of Production Lift. Installation plan varies to meet customer's needs.

There is a Globe Production Lift for almost any job from raising paper stock to a cutter to feeding sheet steel into a brake or shears... from feeding tumbling barrels to positioning men and equipment for welding operations.

Globe Production Lifts save time, waste-motion, and strain—the OiLIFT powered platform "inches" upward so that material is always on the right level for easiest and fastest handling. This all adds up to substantial savings in production costs.

Got a Lifting Problem?

GLOBE

has the answer

Muscle is the world's most wasteful lifting power. A Globe OiLIFT will do it cheaper and better.

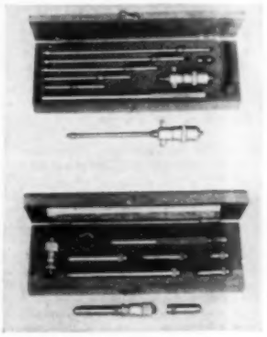
For helpful information on Self-Leveling Ramps, Machine Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc., write for bulletin IE-314.

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

BREVITY—Identify by IEN - 6145 If you write the maker

GAGE . . Micrometer employs interchangeable rods for internal work

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.



Satin Chrome designates the finish characterizing two new series of micrometers for internal measurements in the company's line of precision gages. No. 124 is equipped with solid rods for interchangeable assembly. No. 823, a companion set, has interchangeable rods made of ⅜-in. steel tubing, centerless ground. The finish eliminates glare and assists in making a reading quickly. Graduations are in thousandths of an inch, all numbered. The micrometer screw has hardened and ground threads.

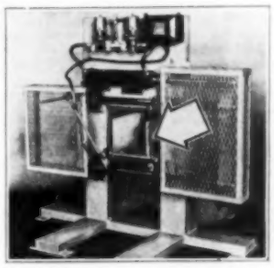
No. 124A, with a range from 2 to 8 in., is equipped with 6 rods. No. 124B, with a range from 2 to 12 in., is equipped with 10 rods. Micrometer heads in both cases have ½ in. of movement. A ½-in. spacing gage is supplied. No. 124C has a range of 8 to 32 in. and has 4 rods. This assembly employs a 1-in. ring gage and two 2-in. gages plus a micrometer head with 1-in. movement. Set 124D with a range from 2 to 32 in. consists of all the items in sets A and C.

No. 823A ranges from 1½ to 8 inches. No. 823B ranges from 1½ to 12 inches. In each case the micrometer head has ½ in. of movement. The rods are marked for length and can be individually adjusted for wear by means of anvils.

BREVITY—Identify by IEN - 6146 If you write the maker

CUTTING . . Rigid wire machine, pneumatic operation for soft materials

Source KLAAS MACHINE & MFG. CO.
4326 E. 49th St., Cleveland 25, Ohio



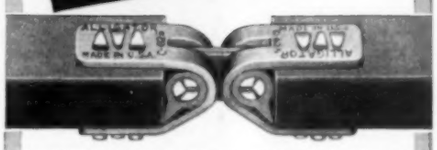
The arrow in the illustration indicates position of the rigid wire employed as the means to cut soft materials issuing from the end of a trough in this new machine. The wire is moved horizontally while it it being held in rigid vertical position by a pneumatic cylinder with electric valve control. Guides mount horizontally at the upper and lower ends of the wire and are connected by a cross-head at the right-hand end to the cylinder also mounted horizontally on the machine panel beneath the control valve. The machine is available to specification. It was developed initially to cut a soft material issuing from an extruding machine in a process operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6147 If you write the maker

Now you can fasten V-belts by using

ALLIGATOR V-BELT FASTENERS



• Alligator V-Belt Fasteners and open-end (long length) V-belting in rolls will enable you to make up multiple V-belt drives for a wide variety of applications.

Available for B, C and D sizes of V-belting.

Not to be used for repairing endless cord V-belts.

Bulletin V-211 will give you complete details. A copy mailed on request.

Order from your supply house

FLEXIBLE STEEL LACING COMPANY
4610 Lexington St., Chicago 44, Illinois

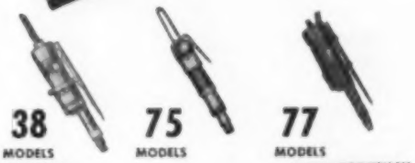
Also sole manufacturers of Alligator Steel Belt Lacing for flat conveyor and transmission belts and FLEXCO Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

BREVITY—Identify by IEN - 6148 If you write the maker

GET THE Thor STORY

ON PORTABLE POWER

SCREW DRIVERS



38 MODELS **UNIVERSAL ELECTRIC** CATALOG E-2

75 MODELS **PNEUMATIC** CATALOG F.1

77 MODELS **HIGH-FREQUENCY ELECTRIC** CATALOG 61

A SIZE AND TYPE FOR EVERY USER

Belt Sanders
Bench Grinders
Drills
Grinders
Hammers
Impact Wrenches

Thor PORTABLE POWER TOOLS

Nibblers
Nut Setters
Polishers
Sanders
Saws
Screwdrivers

INDEPENDENT PNEUMATIC TOOL CO., AURORA, ILL.

BREVITY—Identify by IEN - 6149 If you write the maker

Kester Solder

Kester's famous group of flux-core solders consist of over 100,000 different types and sizes.

Uniform · Efficient

Kester flux-core solders are made only from the finest grades of tin and lead commercially available.

KESTER SOLDER COMPANY
4201 Wrightwood Ave., Chicago 39
Newark, New Jersey
Brantford, Canada

Send for free manual: "SOLDER and Soldering Technique"

KESTER SOLDER

Standard for Industry since 1899

BREVITY—Identify by IEN - 6150 If you write the maker

solve special holding problems with Pheoll CONTINUOUS THREADED RODS

USE ENTIRE ROD OR CUT TO SUITABLE LENGTHS FOR STUDS, HANGERS, SPACERS, SUPPORTS, Etc.

Pheoll continuous threaded rods have a broad range of applications where standard screws and bolts cannot be used. Made either in steel or brass, these fully threaded rods may be cut-to-length to fit individual needs. They are especially useful for holding or attaching parts onto uneven and irregular surfaces where exposed threaded section must be accurately controlled.

A stock of both brass and steel threaded rods is important to have in any metal working shop where threaded studs are repeatedly used. The standard length of continuous threaded rod is 24", diameters range from No. 6 to ⅛" screw sizes.

Rods with standard or special diameters and pitches; single or double lead threads or left hand threads, in steel, brass, copper and other metals in lengths to six feet are made on special order.

Use Pheoll AS YOUR SOURCE FOR . . .

- Roll threaded wires and studs
- Adjusting screws
- Special threaded fasteners
- Screws • Bolts • Nuts

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois
SCREWS • BOLTS • NUTS *Industrial Fasteners and Holding Devices*

BREVITY—Identify by IEN - 6151 if you write the maker

This new three-phase Inductrol gives you more kva of regulation in a smaller floor space than ever before possible

General Electric's NEW INDUCTROLS

(dry-type induction voltage regulators)

will help you get out more production

New improved Inductrols have been introduced this year for both single-phase and three-phase circuits, 600 volts and below. These new dry-type regulators automatically maintain correct voltage on your equipment and do not require expensive fireproof vaults. The attractively styled all-steel cabinets completely enclose all live parts for greater safety. Standard automatic regulators are available for circuits ranging from 3 kva, 120 volts up to 500 kva, 600 volts.

For advice on how, when, and where to apply Inductrols, get in touch with your G-E sales representative or authorized agent.

Write for Bulletins GEC-712 and GEA-4508. *General Electric Company, Schenectady 5, New York.*

GENERAL ELECTRIC

404-80

BREVITY—Identify by IEN - 6152 if you write the maker

THE HP-600 ARBOR PRESS

For EFFICIENCY and ECONOMY

For light high-speed production and assembly presswork. Provides 800 lbs. of sensitive pressure and sensitive control. Frame, table and table standard are close grained iron castings, well braced and accurately machined. Ram and pinion are special steel. Three slots for arbor work—¼", ½" and ¾" wide. The ideal "Pressure Tool" for model makers, jewelers, instrument makers, radio men, research laboratories, schools, light production work, etc.

Straightening attachment available at $4.95.

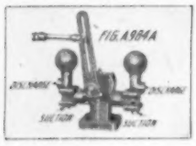
$14.00 POSTPAID U.S.A.

Write for further information.

H. D. HERDER TOOL SPECIALTIES
2724 E. MICHIGAN AVE.
KALAMAZOO, MICH.

BREVITY—Identify by IEN - 6153 if you write the maker

NUGENT Double End Oil Pumps



- Simultaneously pump two liquids without mixing.
- Or pump a single liquid at double capacity.

Simple, dependable Nugent Double End Pumps offer the economical way to solve many pumping problems. There are no air pockets, consequently pump can be operated at higher speeds without air binding. Easy to mount or disassemble. Stroke is easily adjustable. No cup leathers or soft packing to deteriorate. Maximum capacity 95 gph at each end. Write for complete details and descriptive literature.

Wm. W. Nugent & Co., Inc.
418 N. Hermitage Ave. CHICAGO, 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . Representatives in Principal Cities

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Identification, size of the material, information it contains so you can judge its value to you.

ADHESIVES . . Ethoxyline thermosetting plastic in powder, stick, liquid form; properties, uses. "Araldite I and XV," 16 pages. Ciba Co., 627 Greenwich St., 1st Flr., New York 14, N. Y. **IEN-0584**

AIR CONDITIONING . . "Kathabar" equipment to produce cold dry air; operation, application schematics. Bulletin K-151, 4 pages. Surface Combustion Corp., 2373-77 Dorr St., Toledo 1, Ohio **IEN-0585**

AIR CONDITIONING . . Type-SV "Unitaire" assemblies, 2 to 7½ hp.; condensed description. Folder DB-102-205, 6 pages. Westinghouse Electric Corp., 202 Readville St., Boston 36, Mass. **IEN-0586**

BATTERIES . . "Eveready" dry batteries for portable electronic use; data. "Battery Engineering Bulletin 1," 4 pages. National Carbon Div., 30 E. 42nd, Rm. 308, New York 17, N. Y. **IEN-0587**

BEARINGS . . Miniature ball bearings for precision mechanisms; application suggestions on 70 units. Catalog 51-B, 12 pages. Miniature Precision Bearings, 101 Carpenter St., Keene, N. H. **IEN-0588**

BENDING . . "Metalworker" press brakes; specifications on nine models for 18-gage to 3/16-in. mild steel. Bulletin 906, 4 pages. Airtherm Mfg. Co., 752 S. Spring Ave., St. Louis 10, Mo. **IEN-0589**

BUILDINGS . . "Flexicore" precast prestressed hollow concrete slabs for floors, roofs; drawings, uses. 1951 Catalog, 8 pages. Flexicore Co., 1930-34 E. Monument Ave., Dayton 1, Ohio **IEN-0590**

BUILDINGS . . Corrugated Plexiglas plastic sheet for windows, other building uses; installation, drawings. Booklet PL-78, 24 pages. Rohm & Haas Co., 220-24 Washington, Philadelphia 5, Pa. **IEN-0591**

BURNERS . . Oil burners, 1 to 320 gph.; data on rotary, pressure-atomizing, combination, other types. Condensed Catalog, 16 pages. Ray Oil Burner Co., 403 Bernal, San Francisco 12, Calif. **IEN-0592**

CABLE . . "Laytex" insulated telephone cable; manufacture, properties, specifications, splices. "Laytex Telephone Cable," 16 pages. U. S. Rubber Co., 1230-32 Sixth Ave., N. Y. 20, N. Y. **IEN-0593**

CALCULATING . . Electronic computer for general-purpose use; components, characteristics. "ERA 1101," 8 pages. Engineering Research Associates, 1900 W. Minnehaha, St. Paul W4, Minn. **IEN-0594**

CALCULATING . . Printing calculator to add, subtract, divide, multiply, 10 keys; operation, use. Bulletin AD-515, 12 pages. Remington Rand, 315 4th Ave., Rm. 1618, New York 10, N. Y. **IEN-0595**

CASTINGS . . Centrifugal and vacuum investment castings; description of method, typical parts and metals handled. Bulletin, 4 pages. Electroncast, 1729-33 W. Fulton, Chicago 12, Ill. **IEN-0596**

CHEMICALS . . Non-inflammable solvents for degreasing, processing; properties, uses. "Chlorinated Hydrocarbons," 8 pages. E. I. du Pont, 2518 Nemours Bldg., Wilmington 98, Del. **IEN-0597**

CHUCKS . . Collet, tool-holder, pneumatic types, expanding mandrels, indexing head; descriptions, list prices. Catalog J, 24 pages. Erickson Tools, 2307-11 Hamilton, Cleveland 14, O. **IEN-0598**

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BREVITY—Identify by IEN - 6154 if you write the maker

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By using Gerrard Seals with the strips cut off from both sides of a roll of galvanized steel roofing, a prominent manufacturer developed a better looking "package" and established new economies in production.

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STEEL STRAPPING

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Weighs Less... and way less trouble

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This Well-Cast magnesium permanent mold wheel casting—a 1¼ lb. light weight—reduces the overall weight of the hand truck on which it's used. Tough as an American in Korea, it's also a push-over to machine. Same thing applies to our sand castings in either magnesium or aluminum. Want to lose some weight?

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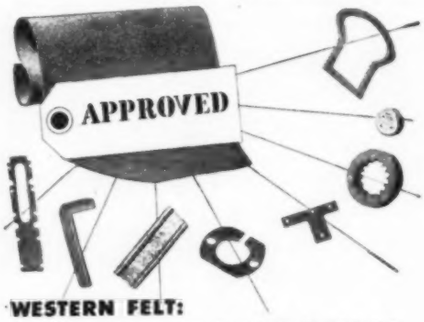

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Your Insurance Against Complaints

Felt is not "just felt." There is a vast difference in its manufacture and efficiency. Because Western Felt for over fifty years has not, and will not, depart from its policy of maintaining the highest possible quality in material and manufacture, its products wherever they may be employed, are your insurance against product complaints due to a Western Felt component part. It ranges from wool softness to rock hardness—never loses shape—does not ravel or fray—resists oil, water, heat, age-resilient, flexible, compressible—may be cut to extremely close tolerances—unsurpassed in uniformity. 102F

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Largest Independent Manufacturers and Cutters of Wool, Hair and Jute Felts

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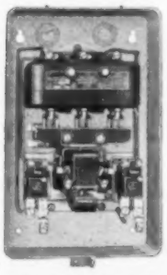
It's All New CLARK "CY"

the AC MOTOR STARTER that gives you MILL-TYPE HEAVY DUTY CONSTRUCTION and DESIGN

at NO PREMIUM above regular starter prices!



Here is a line of AC Magnetic Starters of heavy duty, ingenious design, and an entirely new principle of arc interruption, to give you these advantages:

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- No carbonization to shorten contact life.
- Wiring terminals protected from hot gases.
- No tools needed to inspect contacts.

Featuring Multi-Turn Magnetic Blowouts and Twin-Break Contacts

Strong blow-out coils and twin-break contacts are combined in the CLARK "CY" to give new standards in starter performance.

Let a CLARK application engineer show you what this new starter means to you in increased production and lower maintenance.

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ENGINEERED ELECTRICAL CONTROL — 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

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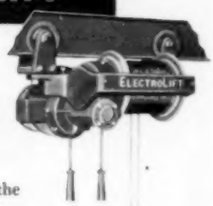
GET A LIFT WITH ELECTROLIFT

worm drive hoist



Get the *one* hoist with *all* the advantages: smooth, quiet, fast, safe, and so economical it'll pay for itself in a hurry.

One man handles up to 6 tons—controlling the load to the merest fraction of an inch by push button. Wide range of models, for any use.

Call your ElectroLift representative listed in the classified telephone directory. Or write to:

WORM DRIVE ELECTROLIFT HOISTS

ELECTROLIFT, INC., 30 Church Street, New York 7, N. Y.

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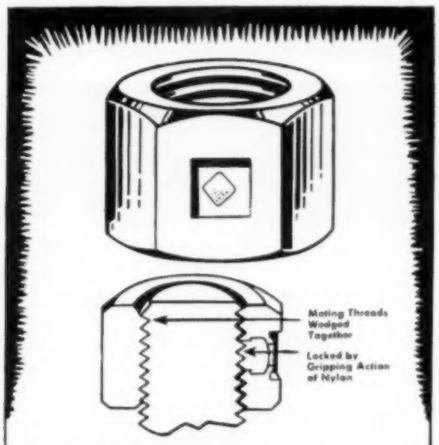

EASY does it with—
Townsend Nylok Locknuts

It's *easy* to install the new Townsend Nylok Self-Locking Nut* as it has no top or bottom—it assembles readily even in blind applications. In addition, you get positive locking action with low installation torque. This saves time and reduces scrap losses due to seizing and galling by as much as 80% over other types of locknuts. Lock washers and jam nuts are eliminated.

The Townsend Nylok Type "E" Nut is cold forged to provide added strength in the body and threads and to save critical material compared to nuts machined from bar stock.

The small nylon plug insert located in the center of one of the hex faces provides the locking action. This plug extends beyond the crest of the threads in the nut and when the nut and bolt are assembled the bolt compresses but does not cut this nylon plug. The nylon plug then reacts as a wedge creating strong metal to metal action between the male and female threads.

Nylok nuts lock in any position. Seating is unnecessary. Due to nylon's ability to retain its original shape, these nuts can be used again and again. Nylok nuts have high tensile strength, excellent heat resistance and are unaffected by most chemicals.

The Townsend Nylok Locknut is available in American Standard Light (E-6) and Light-Thick (E-7) series—in sizes ¼" through ⅜".

For information on how to save time, eliminate waste and produce better equipment with Townsend Locknuts, write for our locknut bulletin.

* Licensed under The Nylok Corporation patents.

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Cherry Rivet Company Division, Los Angeles, California
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NEW LITERATURE—Continued

"Condensed reviews for busy readers"

CIRCUIT BREAKERS . . Magnetic non-thermal design; specifications on general-purpose units. Condensed Catalog, 12 pages. Heinemann Electric Co., 100 Plum St., Trenton 2, N. J. **IEN-6599**

CLEANING . . Series-6000 tube cleaner, 2¼ to 6 in.; pneumatic motor construction, illustrated head types. Bulletin 49, 4 pages. Airetool Mfg. Co., 304-8 S. Center St., Springfield, Ohio. **IEN-6600**

CLEANING . . Push-type motorless mechanical sweeper for plant floors; picture examples of use. Mailing folder, "Plantman," 4 pages. Handling Devices, 579-83 Boylston, Boston 16, Mass. **IEN-6601**

CLEANING . . Basket-type machine to clean small parts and instruments; operation, materials, motors. "Precision Equipment," 4 pages. L & R Mfg. Co., 575-79 Elm St., Arlington, N. J. **IEN-6602**

CLEANING . . Materials for cleaning ferrous, brass and zinc parts; instructions, specialties. "Cleaning Compounds," 3 sheets. MacDermid, Inc., 1940 Huntingdon, Waterbury 20, Conn. **IEN-6603**

CLEANING . . Steam spray-and detergent equipment; illustrated review, suggestions on its use. Pocket folder, "Time Saved," 8 pages. Oakite Products, 16-A Thames, New York 6, N. Y. **IEN-6604**

CLEANING . . Soft-abrasive-blast equipment to clean grease and dirt from machinery; details. Bulletin 118, 4 pages. Pangborn Corp., 230 Pangborn Blvd., Hagerstown, Md. **IEN-6605**

CLEANING . . Industrial vacuum cleaning equipment; models, applications, special pick-up uses. Bulletin 125-D, 8 pages. Spencer Turbine Co., 485 New Park Ave., Hartford 6, Conn. **IEN-6606**

COMPRESSORS . . Trailer-mounted portable air compressors; models, specifications. Bulletin C-51, 12 pages. O. K. Clutch & Machinery Co., 1948 Florence St., Columbia, Pa. **IEN-6607**

CONSTRUCTION . . "Pumpcrete" equipment to handle concrete by pipe line; operation, examples of use. Bulletin 51-31, 24 pages. Chain Belt Co., 1675 W. Bruce St., Milwaukee 4, Wis. **IEN-6608**

CONSTRUCTION . . "Shoveloader" attachment for wheel-type tractor; operation, uses, questions and answers. Folder AD-32, 6 pages. Lull Mfg. Co., 3610-14 E. 44th, Minneapolis 6, Minn. **IEN-6609**

CONTRACT WORK . . Fabricated metal parts by packaging-machinery maker; facilities, examples. "At Your Service," 8 pages. J. L. Ferguson Co., Republic & Troy Sts., Joliet, Ill. **IEN-6610**

CONTRACT WORK . . In fabrication, assembly and finishing of aluminum and magnesium parts; facilities. Bulletin, 4 pages. Moss Eng. Co., 1905-11 Furnace Ave., Elkridge 27, Md. **IEN-6611**

CONTRACT WORK . . In sheet-metal roll forming, fabricating, finishing; machine list, examples. "Facilities List," 12 pages. Pyramid Mouldings, 5341 W. Armstrong Ave., Chicago 30, Ill. **IEN-6612**

CONTRACT WORK . . In metal fabrication and production assembly of electrical products; facilities, examples. Folder 109, 4 pages. A. L. Smith, 219-233 Everett, Chelsea 50, Mass. **IEN-6613**

CONTRACT WORK . . In extruded-aluminum production, fabrication and assembly; illustrated facilities. "At Your Service," 16 pages. Valley Metal Products, 51 Indl. St., Pisinwell, Mich. **IEN-6614**

CONTROLS . . "Sim-Ply-Trol" contact-making electric meter for control use; application circuits. Mailing Folder CMR-9, 4 pages. Assembly Products, Bell & Main Sts., Chagrin Falls, O. **IEN-6615**

CONTROLS . . "Viscorator" instruments to measure and control viscosity in process lines; models, operation. Catalog 88, 8 pages. Fischer & Porter Co., 4050 County Line Rd., Hatboro, Pa. **IEN-6616**

CONTROLS . . Dry-type induction voltage regulators to 600 volts; construction, models, list prices. Bulletin GEC-712, 14 pages. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y. **IEN-6617**

CONTROLS . . Mercury-in-glass temperature regulators and thermostats; models, operation, relays. Catalog 18, 12 pages. H-B Instrument Co., 2631-35 Trenton Ave., Philadelphia 25, Pa. **IEN-6618**

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BREVITY—Identify by IEN-6161 if you write the maker

A PAID NEWS ADVERTISEMENT BY HONAN-CRANE CORP.

FILTERING . . "One-man" mobile unit cleans cutting oils and coolants

New **Houdaille** Mobile Coolant Filter provides quick, simple filtration of soluble coolants. Removes fine chips and contamination from the sump itself, preventing accumulation of foreign matter.

Unit equipped with suction hose and discharge hose, each of oil resisting neoprene, measuring 10 feet long. Close coupled centrifugal pump, jet ejector and 1 hp. motor are operated from one control only. Coolant is drawn through close-woven cloth bag which removes solid particles, such as dirt, chips and abrasives. Clean coolant is then returned to the sump. Tank containing filter bag and metal basket is fitted with quick-opening lid. When filter bag is loaded with chips or grindings, unit can be wheeled to disposal point where bag is easily removed and emptied. Bag can be washed in degreaser and reused.

One-man mobile unit can service any number of machine tools, will clean up an individual machine in less than 10 minutes. Eliminates messy hand-cleaning methods.

HONAN-CRANE CORPORATION
subsidiary of HOUDAILLE-HERSHEY CORP.
802 Wabash Avenue, Lebanon, Indiana

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M&M giant keyseaters

M & M Giant Keyseaters, built in a range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems.

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Fight them with LINDE Synthetic Sapphire!

Because of its low coefficient of friction, high melting point and hardness, and unusual chemical resistance, LINDE synthetic sapphire has paved the way for trouble-free, longer life of both small and large parts in many diverse processes.

A few of the many new equipment parts include: precision balls, sleeve bearings, rods, orifices.

Call or write any LINDE office for detailed information on how sapphire can be applied to your specific design problems. Write for your copy of the booklet, "LINDE Synthetic Crystals for Industry." Ask for Form 7560.

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STONEWALL BOARD

FOR EXTERIOR OR INTERIOR INDUSTRIAL CONSTRUCTION

Whenever a structure or manufactured product must resist fire, extremes of weather, rust, rot, rodents, or corrosion, Ruberoid Stonewall Board may easily be the most efficient answer to the problem. Quickly applied, the big 4' x 8' boards cover more square feet with less labor. And it is strong! Asbestos fibres reinforce Portland cement, resulting in high tensile and rupture strengths. And Stonewall is easy to "work" . . . just score and break to size, or it can be cut with a square shear or a carborundum wheel.

Ruberoid Stonewall Board makes tough, durable indoor and outdoor walls and partitions — they can't rot or decay, are easily cleaned, need no painting. It is also the perfect material for ceilings, barriers, hoods, ducts, humidifiers, stove and refrigerator linings or for any purpose where moisture or heat are hazards.

The RUBEROID Co.

Building Materials for Industry, Home, and Farm

Executive Offices: 500 Fifth Avenue, New York 18, N. Y.

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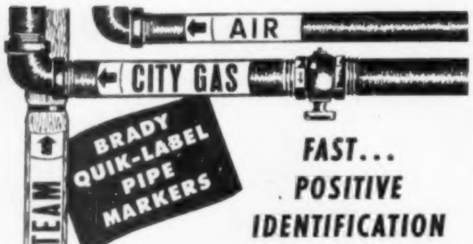

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For a few cents per pipe, you can equip your entire plant with Brady QUIK-LABEL Pipe Markers. You can get a uniform system of pipe identification based on A.S.A. Standard A13. Names of materials printed in large black letters on correct A.S.A. background colors — no hand stenciling, painting, or hard to remember codes. Anyone who can read can tell at a glance the pipe contents and direction of flow. Over 235 different markers and direction arrows in stock. Specials made to order.

Brady QUIK-LABELS stick without moistening—applied in a jiffy, Silicone Plastic treated to resist dirt, grime, moisture—for indoor or outdoor service.

Brady Pipe Markers leave no room for doubt . . . or TRAGEDY.

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W. H. BRADY COMPANY
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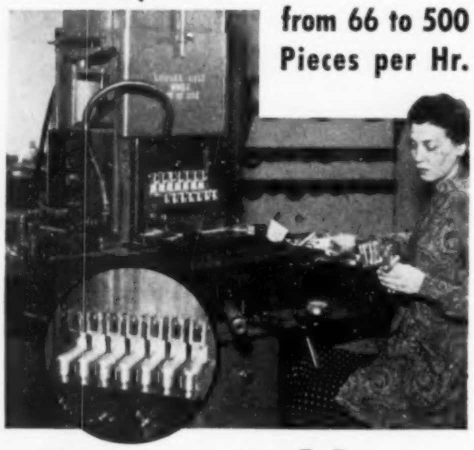
Boosts Production

from 66 to 500 Pieces per Hr.



Porter-Cable *Abrasive* Belt Machining

PREVIOUS METHOD— Z-shaped pieces milled one at a time at rate of 66 per hour.

IMPROVED METHOD— Porter-Cable Wet-Belt Surfacer with Automatic Feed Table grinds 7 pieces to exact limits in one presentation to the belt. Pieces held in simple pre-loaded jig. Production increased to 500 per hour by inexperienced operator.

Porter-Cable Abrasive Belt Machines step up production on these operations:

Machine Flats
Grind Contours
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A Complete Line:
Platen Grinders • Contour Grinders • Contact Grinders • Centerless Grinders • Free-Belt Grinders • Bench Grinders

With abrasive belt machines, surfacing operations in great variety show time savings that are outstanding—from simple burring to precision machining.

Porter-Cable has developed wet-belt and dry-belt units to suit different materials and different purposes. This abrasive belt process is revolutionary—does jobs you'd never think possible; lends itself to ingenious operations; adapts simplest, inexpensive fixtures; secures exceptional finish, often works with free-hand feed.

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Mfrs. of SPEEDMATIC and GUILD ELECTRIC TOOLS
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NEW LITERATURE—Continued

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CONTROLS . . Flexible shafts and couplings for remote position control; properties table, types, uses. Bulletin 5194, 4 pages. Kupfrian Mfg. Co., 200 Prospect Ave., Binghamton, N. Y. **IEN-0619**

CONVEYING . . Portable inclined power belt conveyor, 30 ft. in length; specifications on 24 models. "Power Stacker," 4 pages. Bonded Scale & Machine, 50 Bellview, Columbus 7, Ohio **IEN-0620**

CONVEYING . . Chain and attachments for slat, drag, vertical, flat-top conveyors; illustrated designs. Bulletin 50-35, 12 pages. Chain Belt Co., 1675 W. Bruce St., Milwaukee 4, Wis. **IEN-0621**

COOLING . . Dry expansion-type cooler for freon; detail selection instructions and specifications. Catalog 101, 16 pages. Patterson-Kelley Co., 385 Burson St., East Stroudsburg, Pa. **IEN-0622**

COOLING . . "Mono-Weld" radiators for large engine cooling; construction on 2½ to 10½-ft. units. Catalog 1651, 4 pages. Young Radiator Co., 719 Marquette St., Racine, Wis. **IEN-0623**

CORROSION PROOFING . . Linings for concrete or steel tanks; properties chart on materials, sheathing. Bulletin 4-1, 4 pages. Atlas Mineral Products Co., 442 Walnut St., Mertztown, Pa. **IEN-0624**

CORROSION PROOFING . . Coating and wrapping materials for pipe-line exteriors; condensed data, material table. Bulletin 511, 4 pages. Trenton Corp., 5 Wolverine Bldg., Ann Arbor, Mich. **IEN-0625**

COUNTING . . Mechanical, electric, photoelectric counting equipment; condensed data, list prices. Catalog 53, 8 pages. Production Instrument Co., 700-10 W. Jackson Blvd., Chicago 6, Ill. **IEN-0626**

CRANES . . "Hystaway" crane attachment for Caterpillar tractor; load-radius diagram, picture applications. Bulletin 1170, 16 pages. Hyster Co., 2916 N. E. Clackamas St., Portland 8, Ore. **IEN-0627**

CUTTING . . Lathe-type automatic cutting-off machines for tube, pipe and bar stock; detail specifications. "The Modern," 12 pages. Modern Machine Tool Co., 605 Water St., Jackson, Mich. **IEN-0628**

CUTTING . . Rotary burring tools, small milling cutters, countersinks, chamfering tools; drawings, list prices. "All Star," 16 pages. Severance Tool Industries Inc., 740 Iowa St., Saginaw, Mich. **IEN-0629**

DOORS . . Upward-rolling steel doors, fire doors, rolling grilles; drawings, sizes, uses. Catalog AA-28; 12 pages. Cornell Iron Works, 13th St. & 36th Ave., Long Island City 1, N. Y. **IEN-0630**

DRILLING . . Carbide twist drills, core drills, drills for hardened steel; sizes, list prices. Catalog Supplement 4, 12 pages. Super Tool Co., 21652 Hoover Road, Detroit 13, Mich. **IEN-0631**

DRIVES . . Floating-disc clutches for machine use; description, picture examples of application. "Maxitorq Goes to Work," 16 pages. Carlyle Johnson Mach. Co., Box 293, Manchester, Conn. **IEN-0632**

DRIVES . . Hydraulic pumps, cylinders and controls for mobile equipment; data summaries, picture applications. Catalog M-5100, 16 pages. Vickers Inc., 1398 Oakman Blvd., Detroit 32, Mich. **IEN-0633**

DRIVES . . Roller-chain stock drives; engineering and selection data on chain, sprockets, attachments. Catalog RS-50, 28 pages. Whitney Chain Co., 235-9 Hamilton St., Hartford 2, Conn. **IEN-0634**

DUST COLLECTING . . "Precipitator" Series-342 unit for fly ash, cinders, dusts; selection. Bulletin 1728, 12 pages. American Blower Corp., 8109 Tireman, Dept. D-7, Detroit 32, Mich. **IEN-0635**

DUST COLLECTING . . "Suppressor" bag-type unit for dust, fumes, smoke; construction and operating details. Bulletin FY-169, 4 pages. Whiting Corp., 15629 S. Lathrop Ave., Harvey, Ill. **IEN-0636**

ELECTRONIC PRODUCTS . . Magnetic cores of "Ferroxcube" non-metallic material; properties, sizes. Bulletin FC-5101, 8 pages. Ferroxcube Corp., 50 E. 41st St., New York 17, N. Y. **IEN-0637**

ELECTRONIC PRODUCTS . . Components, hardware, tools, meters, tubes; descriptions, list prices. Catalog 51, 130 pages. Sun Radio & Electronics Co., 122-24 Duane, New York 7, N. Y. **IEN-0638**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

▼ BREVITY—Identify by IEN - 6168 if you write the maker ▼

A PAID NEWS ADVERTISEMENT BY LABELON TAPE CO., INC.

NEW LABELING TAPE . . Write on it won't smudge . . stays clean, resists oil, acids . . pressure sensitive

Every industry will find Labelon Tape a time and money saver. Sticks firmly, without moistening, to any smooth, clean surface, yet can be instantly removed . . . won't curl or discolor with age or variations in temperature or humidity.

Write on it with pencil, stylus or typewriter. Message won't smudge or smear—resists dirt, acid, water, oil and heat up to 150° F. That's because Labelon is the only labeling tape with a special writing surface sandwiched between two layers of acetate. Available in different widths and colors, with or without self dispenser.

Labelon Tape is perfect for labeling stock room bins, shelves, and hard-to-mark parts; for tool tagging and special equipment identification; for marking service department repairs; for indicating rejected parts; for labeling laboratory equipment, supplies, experiments; for panelboard or electrical wiring; for identifying files, storage boxes and general office equipment.

Samples and Catalog on request.

LABELON TAPE CO., Inc., Dept. IEN
100 Anderson Ave., Rochester 7, N. Y.

▼ BREVITY—Identify by IEN - 6169 if you write the maker ▼

TO CLEAN YOUR DIE MOLDS..

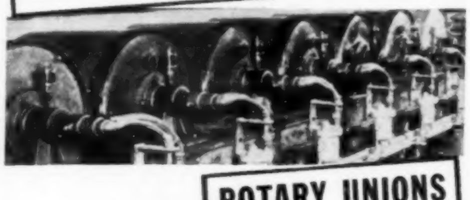
Moisture, oil and foreign matter completely removed from air lines by patented one-piece separator and eliminator chamber.

Does not waste air by continuous venting. Positive, automatic, effective for paint sprays, sand blasting, etc.

RAILWAY AND INDUSTRIAL ENGINEERING CO.
GREENSBURG, PA.

▼ BREVITY—Identify by IEN - 6170 if you write the maker ▼

the Revolving Joint with Shock Absorbers



ROTARY UNIONS
TRADE NAME

Ball bearing construction, anti-wobble shafts, and a tight rust-proof and dirt-proof Monel mechanical seal make ROTARY UNIONS outperform and outlast other revolving connections.

In addition, ROTARY UNIONS *float* on flexible hose connections which absorb misalignment and shock, adding months of trouble-free service. Positive sealing at steam pressures up to 200 PSI. ROTARY UNIONS are the most efficient connection for heating and cooling purposes on all revolving connections. Write for Catalog 600-N for complete information.

"WHERE Good Connections COUNT"
PERFECTING SERVICE COMPANY
332 Atando Ave. Charlotte, N. C.
Offices in Jersey City — Chicago — Philadelphia — Cleveland — Pawtucket, R. I.

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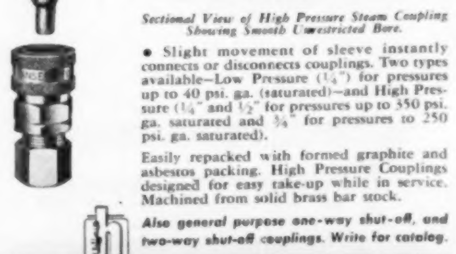
HANSEN

QUICK-CONNECTIVE
STEAM COUPLINGS
WORKING PRESSURES TO 350 POUNDS



Sectional View of High Pressure Steam Coupling Showing Smooth Unrestricted Bore.

• Slight movement of sleeve instantly connects or disconnects couplings. Two types available—Low Pressure (¼") for pressures up to 40 psi. ga. (saturated)—and High Pressure (¼" and ½" for pressures up to 350 psi. ga. saturated and ¾" for pressures to 250 psi. ga. saturated).

Easily repacked with formed graphite and asbestos packing. High Pressure Couplings designed for easy take-up while in service. Machined from solid brass bar stock.

Also general purpose one-way shut-off, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY

BREVITY—Identify by IEN - 6172 if you write the maker

The "M" Series valves are approx. 4⅝" high, yet have extremely fast action and large capacity for liquids, air and inert gases! They have soft insert seats to prevent leakage — will operate in any position— nylon fabric coated diaphragm for long life — max. power consumption 10 watts—continuous duty! **M-2** two-way normally closed — 5 to 150 p.s.i. — port size ⅜" or ½"; orifice ⅜" — pilot operated. **M-3** three-way normally closed, three-way normally open or directional flow—20 to 150 p.s.i. — port size ⅜" or ½"; orifice ⅜" — pilot operated. Special models available.

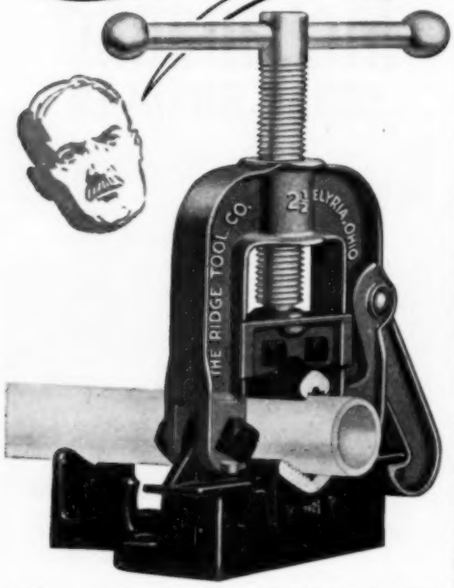
Write for Bulletin No. 493

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

BREVITY—Identify by IEN - 6173 if you write the maker

The Handy Durable RIDGID Bench Yoke Vise

It's got what you need for easy work



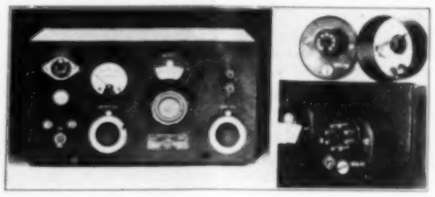
● You save time and effort with this more-for-your-money RIDGID Bench Vise. Right where you need 'em are its integral pipe rest and benders that won't flatten pipe—and heat-treated tool-steel LonGrip jaws mean you don't have to be so fussy with polished pipe. Special malleable frame, extra durable. 8 sizes to 6" pipe, bench, post, stand and Tristand models, yoke and chain. Order from your Supply House.

RIDGID
Work-Saver Pipe Tools
THE RIDGE TOOL CO. • ELYRIA, OHIO

BREVITY—Identify by IEN - 6175 if you write the maker

TESTING . . Capacitance meter to check electronic tube sockets

Source: GENERAL RADIO CO.
273-77 Massachusetts Ave., Cambridge 39, Mass.



Type 1612-AL is a new instrument to measure tube-socket capacitances according to RTMA Standard TR-111. The instrument is provided with three adaptors at the present, as shown to the right in the illustration. They apply interchangeably to take 7-pin miniature sockets for measurement of No. 4 contact to all other metal parts, octal sockets for the same measurement and 9-pin miniature sockets to measure No. 5 contact to all other metal parts.

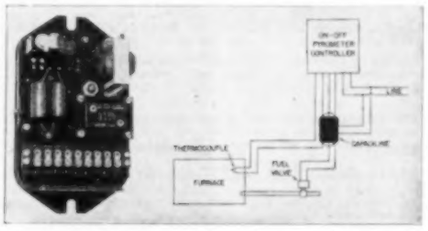
Two ranges from 0 to 10 uuf. and from 0 to 100 uuf. are switched automatically upon rotating the main capacitance dial. A capacitance of the order of 1 uuf. at a frequency of 1 mc. can be checked to an accuracy of 0.1 uuf. or better.

A companion instrument, Type 1612-A, extends the range of measurement to 1,000 micromicrofarads. The assembly includes a 1-mc. oscillator and resonance indicator. It measures 12 by 7½ by 6⅝ in. and weighs about 12 pounds. Power input is 12 watts at 110-volt ac. The instrument also can be applied on 110-volt dc. power supply.

BREVITY—Identify by IEN - 6176 if you write the maker

CONTROL . . Damping mechanism prevents temperature control hunting

Source: WHEELCO INSTRUMENT CO.
845-9 W. Harrison St., Chicago 7, Ill.



Capaciline trade names new assembly of pilot relay, transformer, sensitivity adjustment, voltage-selector plug, and terminal panel, all mounted as a unit with overall dimensions at about 5 by 2⅝ by 7⅝ inches. Application is in the circuit between an on-off pyrometer controller and a furnace, oven, kiln, pot, extrusion machine or other equipment employing heat that requires temperature control.

Temperature changes are anticipated to prevent over or under-shooting to a point where hunting is eliminated. Application can be made on any standard design of on-off control equipment or complete assemblies of the Capaciline and the company's Capacitrol can be specified. The unit alone, known as Model 600, lists at $60. Operation is on 110 or 220-volt ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6177 if you write the maker

First Line of Defense

WECO No-Gall . . 50% pure metallic zinc base

WECO Steel-Aid . . 65% pure metallic lead base

WECO Hi-Speed Seal. Permanent, non-hardening, always ready for immediate use . . best defense against thread leaks in casing, tubing and other threaded connections.

AGAINST GALLED THREADS

WECO No-Gall and WECO Steel-Aid establish an unbroken protective film between mating surfaces . . . a *metallic* film accepted by leading authorities as the best defense against galled threads in tool joints and drill collars.
Consisting of powdered metallic bases blended with neutral grease binders and tacky additives, these WECO Thread Compounds require no thinner, never harden, contain no compressible fillers and will not squeeze out under high torque.
When you buy thread compounds, specify "WECO" . . . no better thread protection is available.

SOLD THROUGH ALL LEADING SUPPLY STORES

WELL EQUIPMENT MFG. CORP.
HOUSTON 1, TEXAS
Exclusive Sales Representative Outside Mid-Continent Area
CHIKSAN COMPANY
Bow Gulf . New York 7
Export Sales: CHIKSAN EXPORT COMPANY, Bow Gulf . New York 7

WECO
Manufacturers and Distributors of Oilfield, Refining, Marine and Industrial Equipment

BREVITY—Identify by IEN - 6178 if you write the maker

IMPROVE YOUR PRODUCTS AT LOW COST

FREE
Write for a copy of this information packed folder—D-71.

You can improve your products and equipment, give them corrosion resistance and minimize use of critical materials by designing your products around PERMACLAD. Get complete information today.

For Better Products at Low Cost—Specify PERMACLAD

PERMACLAD
STAINLESS CLAD STEEL

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.
125 Years of Iron and Steel Making Experience
Other Products:
A. W. ALGRIP Abrasive Floor Plate • A. W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

BREVITY—Identify by IEN - 6179 if you write the maker

for • SPRAYING • WASHING • RINSING • COOLING • AIR CONDITIONING

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying.
Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow.
Wide range of standard sizes and capacities. Cast or machined from solid bar stock.
Thousands in use. Write for Bulletin N-616.

YARWAY
SPRAY NOZZLES
YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.

BREVITY—Identify by IEN - 6180 if you write the maker

You Need MODERN EQUIPMENT to Fight Soot ECONOMICALLY

This high vacuum, heavy-duty Furnace Cleaner is G-E engineered to do the job easily, quickly, economically. Weighs only 51 lbs. 1 full H.P. Readily converted into a powerful BLOWER. Moderately priced. Used regularly, it helps PAY FOR ITSELF in a single season.

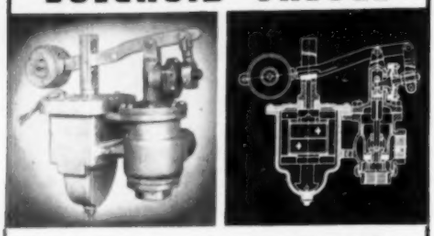
GENERAL ELECTRIC

General Electric Company, Dept. 22-3527
1285 Boston Ave., Bridgeport 2, Conn.
Send me, without obligation, details on G-E Heavy-duty Furnace & Boiler cleaning equipment.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

BREVITY—Identify by IEN - 6181 if you write the maker

SOLENOID VALVES



Built to Handle Tough Jobs!

COMPLETELY SEALED VALVE MECHANISM. Valve stem is connected to solenoid lever through patented "DIA-BALL" packless joint. Widely favored for handling inflammable or toxic gases or liquids.

SELF-CLEANING DESIGN. Can be used successfully for handling heavy, sticky materials because the valve interior is simple, port area large, and outlet downward, thus taking advantage of natural gravity flow. Note that valve seat is accessible for cleaning.

EXPLOSION-PROOF SOLENOID HOUSING. Solenoid coils can be supplied for any current characteristics.

RENEWABLE VALVE DISC. Supplied with composition or metal disc to suit particular requirements. Wide choice of materials available for valve and trim.

VISIBLE ACTION. Note that valve action is visible and can be tested by hand. In an emergency the valve can be manually operated.

Ask for recommendations.

DAVIS REGULATOR CO.
2529 So. Washtenaw Ave. Chicago 18, Ill.

BREVITY—Identify by IEN - 6182 if you write the maker

ELIMINATE ACCIDENTS
DUE TO ROLLING LADDERS

ROLLING CASTER CARRIES LADDER WHEN NOT IN USE — AUTOMATIC ACTION — *RUBBER-TIPPED LEG "LOCKS" TO FLOOR WHEN IN USE*

No longer need stock clerks fear accidents from rolling step ladders. The Ballymore All-Steel Safety Ladder speeds the work without danger of falling.

Available in one, two, three step models without handrails and three, four and six step models with handrails.

WRITE TODAY FOR FREE ILLUSTRATED CATALOG

THE BALLYMORE COMPANY Wayne 4, Pa.

BREVITY—Identify by IEN - 6183 if you write the maker

Industrial CRANES

Industrial Double Girder Multiple Runway Cranes provide high hook lifts and long spans at lower cost.

Illustration shows 5 runway, 3 motor close headroom type—110 ft. span.

Write for 20 Page Fully Illustrated Catalog

Industrial CRANES

INDUSTRIAL EQUIPMENT CO.
321 NORTH ADA STREET · CHICAGO 7, ILLINOIS
Representatives in Principal Cities.

NEW LITERATURE—Continued

"Please note the special 'O' numbers"

ELEVATORS . . Hydraulic lifts, ramps, elevators: application picture stories in news-review form. Bulletin, "Lift," 4 pages. Globe Hoist Co., Queen St. at E. Mermaid, Philadelphia 18, Pa. **IEN-0639**

ENGINES . . Diesel units, standard and supercharged; summary chart on 5 to 516-hp. models, generator sets. Bulletin 1409-B, 24 pages. Buda Co., 15401 S. Commercial St., Harvey, Ill. **IEN-0640**

EQUIPMENT . . Motors, power cylinders, controls, actuators, electronic equipment for aircraft; summary. Bulletin, 28 pages. Air Associates Inc., 49 Bendix St., Teterboro, N. J. **IEN-0641**

EXTINGUISHING . . Soda-acid, foam, other extinguishers; data also on hose, clothing. "Fire Fighting Apparatus," 76 pages. M. L. Snyder & Son, York & Jasper Sts., Philadelphia 25, Pa. **IEN-0642**

FASTENINGS . . For use in masonry; description, installation, list prices on anchors, toggle bolts, tools. Catalog 121, 24 pages. U. S. Expansion Bolt Co., 604 State St., York, Pa. **IEN-0643**

FASTENINGS . . Retaining rings for taking up end-play; engineering specifications. Bulletin 6, 16 pages. Waldes Kohinoor Inc., 47-18 Austel Pl., Long Island City 1, N. Y. **IEN-0644**

FEEDING . . Rotary feed table for machine use; operating sequence, models, dimensions, applications. Bulletin T-80, 12 pages. Bellows Co., 230 W. Market St., Akron 3, Ohio **IEN-0645**

FILTERING . . Radial-fin unit for cutting and quenching oils, other liquids; data on 8 models. "Staynew Hydraulic Filter," 4 pages. Dollinger Corp., 9-13 Centre Pk., Rochester 3, N. Y. **IEN-0646**

FILTERING . . Model-SC liquid filter, 60 to 1,200 gpm.; data on 9 models, section view, flow diagram. Folder 12505-M, 6 pages. Sparkler Mfg. Co., Lake St., Room L, Mundelein, Ill. **IEN-0647**

FLOORS . . "Tri-Lok" steel floor grating, concrete armor, stair treads; types, load tables, uses. Bulletin 1103, 16 pages. Bravo Corp., Liberty & Fifth Aves., Pittsburgh 22, Pa. **IEN-0648**

FLOORS . . Ready-mixed repair material for concrete, wood, metal; instructions. Mailing folder, "Flintz," 4 pages. Dura-Tred Co., 355 Central Park Blvd., Chicago 24, Ill. **IEN-0649**

FLOORS . . Material to repair floor surfaces; properties, application instructions, typical installations. "Stonpach," 4 pages. Stonhard Co., 1304-8 Spring Garden, Philadelphia 23, Pa. **IEN-0650**

GAGES . . Unit to measure dry thickness of non-conductive coatings; operating principle, instructions. "Gardner Gage," 6 pages. Henry A. Gardner Lab., 4725 Elm St., Bethesda 14, Md. **IEN-0651**

GAGES . . Portable instrument to measure thrust or pull in mechanisms to 20 lb.; operation, scale ranges. "Force Indicator," 4 pages. Hunter Spring Co., 3 Spring Ave., Lansdale, Pa. **IEN-0652**

GENERATORS . . Hydraulic turbine-driven synchronous units; construction features in detail. Bulletin 05-B 7549, 32 pages. Allis-Chalmers Mfg. Co., 900 S. 70th St., Milwaukee 14, Wis. **IEN-0653**

GENERATORS . . Diesel-electric sets to 314 kw.; engine, lubrication, cooling, fuel consumption. Bulletin 30659, 16 pages. Caterpillar Tractor Co., 602 W. Washington, Peoria 8, Ill. **IEN-0654**

GRINDING . . Contour grinding machine, operator watches magnified image; specifications. "Visual Grind," 4 pages. Cleveland Grinding Machine, 6512-16 St. Clair, Cleveland 3, Ohio **IEN-0655**

GRINDING . . Face grinding machine for parts to 12 by 72 by 16 in.; specifications, examples of use. Bulletin NT-20, 4 pages. Samuel C. Rogers & Co., 185-89 Dutton Ave., Buffalo 11, N. Y. **IEN-0656**

GRINDING . . Belt machine to finish reground crankshaft bearing surfaces to 3½ microinches; details. Folder, "Kotafin," 4 pages. Storm-Vulcan Inc., 2502 Commerce St., Dallas 1, Texas **IEN-0657**

HANDLING . . Stacking baskets for parts in process; size table, notes on wire or metal construction. "Stacking Baskets," 4 pages. Wire & Iron Products, 1723-27 16th St., Detroit 16, Mich. **IEN-0658**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 6184 if you write the maker

A PAID NEWS ADVERTISEMENT BY REMINGTON RAND INC.

ELECTRIC TYPING VS. MANUAL TYPING

...booklet describes how Electric Typing can increase production—slash office typing costs.

Here are concrete suggestions for materially improving your firm's over-all typing efficiency through maximum utilization of typewriter equipment.

This booklet shows why Electric Typewriters are replacing manual machines today. The subject matter covered includes:

1. Typing Station Analysis
2. Modernization of the Office
3. Higher Employee Morale
4. Typing Speed
5. Volume of Work
6. Appearance of Work
7. Ease of Operation
8. Production
9. Carbons
10. Duplicating

Based on scientific research obtained from some of the country's largest, most important companies, *"Electric Typing vs. Manual Typing"* contains information of interest to executives in every business, large or small . . . and it's condensed into 20 pages for quick and easy reading. A copy of this booklet may be obtained by writing the publisher, Remington Rand, Room 2118, 315 Fourth Ave., New York 10, N. Y. or by using the Reader Service Form herein.

REMINGTON RAND Inc.
Business Machines and Supplies Division, Room 1240
315 FOURTH AVENUE, NEW YORK 10, N. Y.

BREVITY—Identify by IEN - 6185 if you write the maker

SLITTERS AND ROLLWINDERS

For all types and sizes of roll-wound products

From cellophane to sandpaper, from bandages to brake lining, *Camachine* experience leads the way in every field of roll production. There's a *right Camachine* for all types of paper or paperboard; textiles, rubber, foil or plastic; plain, coated, laminated or tacky-surfaced materials. *Camachines* are engineered for dependable, top-quality roll production at record-breaking speeds. For information and literature regarding roll production equipment for any type of material, write to:

CAMERON MACHINE CO.
61 POPLAR ST., B'KLYN 2, N.Y.

Camachine®
First in roll production equipment

BREVITY—Identify by IEN - 6186 if you write the maker

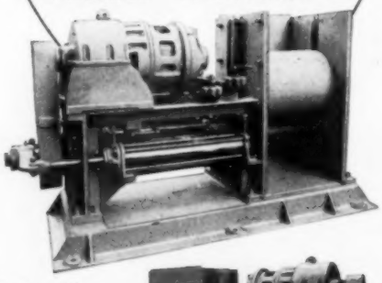
Salvage

ALUMINUM · STEEL
BRASS · COPPER
LEAD or WIRE

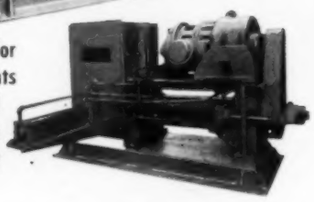
Faster, More Economically

The New

McLanahan
SCRAP BUNDLER



Designed for use in plants of small or large capacity



If your metal scrap or wire is of a stringy nature, you need the new McLanahan scrap bundler for use with your slitting equipment. This new machine, the result of constant research and product development, quickly and economically bundles metal scrap into cylinders approximately 16" to 18" in diameter. Easy to handle, ship, store or remelt . . .

Write Today for Descriptive Bulletin

McLANAHAN and STONE Corp.
Hollidaysburg, Pa. SINCE 1835

BREVITY—Identify by IEN - 6188 if you write the maker

CAL-WIC... for convenient source of supply

With plants on both the East and West Coast we are able to offer wire cloth users in all parts of the country a convenient and economical source of supply. Cal-Wic wire cloth meets a multitude of industrial needs; is available in most needed weaves, meshes and weights and in various metals and alloys. Write for illustrated descriptive catalog MS-661.

CAL-WIC INDUSTRIAL SCREENS CF&I

IN THE EAST—WICKWIRE SPENCER STEEL DIVISION • Clinton, Massachusetts
IN THE WEST—THE COLORADO FUEL & IRON CORP. • Denver 2, Colorado
ON THE PACIFIC COAST—THE CALIFORNIA WIRE CLOTH CORP., Oakland 6, Cal.

BREVITY—Identify by IEN - 6189 if you write the maker

HOW TO MAKE 1 SINGLE CIRCUIT DO THE WORK OF 2

CHARG-O-MATIC
Motor Generator Battery Charger

DOUBLE THE CAPACITY of your Charg-O-Matic "KX" or "HX" single-circuit battery charger—at a fraction of the cost of an additional charger! Hertner's new Double Duty Charge Control Unit, mounted on your Charg-O-Matic, makes this easy.

You plug in two truck batteries **at once**. Each is individually charged. When the first is recharged, it is automatically disconnected and the same cycle is repeated for the second. When both are fully charged, motor generator automatically shuts down, with no further attention. Begin recharging at end of a day. By tomorrow morning you'll have **two** battery-powered trucks back in operation.

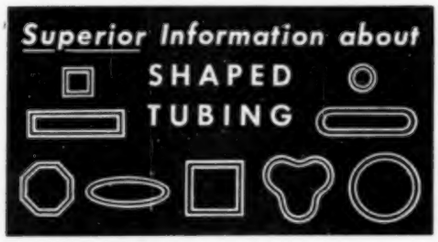
Specify a Double Duty unit when ordering your new "HX" or "KX" Charg-O-Matic, or mount a Double-Duty Unit on your present "HX" or "KX" Charg-O-Matic (if manufactured after Dec. 1, 1949). Either way, you'll **double the usefulness of your** battery-charging equipment.

For additional information on the "HX" or "KX" Charg-O-Matic with Double Duty Unit call in your nearest electric truck representative, or write direct for bulletin No. 201R.

THE HERTNER ELECTRIC COMPANY
12690 ELMWOOD AVE. • CLEVELAND 11, OHIO
A General Precision Equipment Corporation Subsidiary
MOTORS • MOTOR-GENERATORS • GENERATOR SETS
Representatives in Principal Cities

BREVITY—Identify by IEN - 6190 if you write the maker

Superior Information about SHAPED TUBING



Superior draws fine small tubing in dozens of standard and some specialized designs in scores of analyses. But because of Defense Orders and metal shortages we may not be able to supply your immediate needs.

If you need shaped tubing with a MAXIMUM CIRCUMFERENCE of 2", tools may be available at Superior for its production. Please include a print or sketch showing dimensions, radii, tolerances, analyses and temper when you inquire.

For information about Superior's ability to cold draw round or shaped tubing, write for Bulletin #32. It gives production limits, standard tolerances and analyses regularly available. Superior Tube Company, 2016 Germantown Ave., Norristown, Pa.

Superior THE BIG NAME IN SMALL TUBING

All analyses .010" to 5/8" O.D.
Certain analyses (.035" max. wall) up to 1-3/8" O.D.

West Coast:
PACIFIC TUBE COMPANY, 5710 Smithway Street, Los Angeles, Calif., UNderhill 8-1331

BREVITY—Identify by IEN - 6191 if you write the maker

HANDLING . . Chain sling assembly for electro magnet, cannot tangle, twist

Source: S. G. TAYLOR CHAIN CO.
Box 509-A, Hammond, Ind.

The company announces purchase of exclusive manufacture and sales rights for the Downtown type of frictionless magnet chain. It is shown in place on a magnet in the illustration. The design employs a horizontal ring and locating plate that keeps three suspension legs at 120-deg. centers around the ring so they cannot gang up. The ring, in turn, is supported by an eye to engage a crane hook. The assembly is made of heat-treated TM alloy steel which does not require annealing and is resistant to shock loading and to fracture in sub-zero temperature. A 1¼-in. three-leg chain assembly on a 65-in. magnet will lift 110,000 pounds. The company is prepared to supply the sling in required size and capacity for intended application.

BREVITY—Identify by IEN - 6192 if you write the maker

PAINTING . . Coal tar base liquid for insulation, masonry, metals, wood

Source: CONTINENTAL COATINGS CORP.
304 E. 44th St., 1st Floor, New York 19, N. Y.

For temperatures to 500 or 600 deg. F.

Steelsaver, Yankee Clipper, Rockcoat, Cermastic B-29, Concoat 75, and Concoat Aluminum are six new corrosion-resistant materials. They apply by brushing or spraying and, in some cases, by dipping for surface protection of insulating materials, masonry, metals and wood.

The coatings form tough elastic films that resist penetration of chemicals, fumes, moisture, heat. They are non-soluble in oil and completely waterproof. They are resistant to attack by organic and inorganic acids, by strong alkalis, alcohol, formaldehyde, salt spray. Three have been developed to meet corrosive conditions in combination with abrasive action, vibration, contraction and expansion.

BREVITY—Identify by IEN - 6193 if you write the maker

CASTER . . Swivel design mounts 8½ in. wheel and rates 1 ton

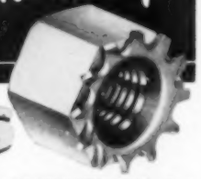
Source: AEROL CO.
2820-A Ontario St., Burbank, Calif.

Aluminum castings, alloy-steel king pin, Timken or Bower automotive-type tapered-roller bearing, sealed-in lubricant characterize the construction of this new heavy-duty caster. The wheel mounts a solid rubber tire of the same composition as that employed in road-building equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6194 if you write the maker

Try This Amazing New Shakeproof Fastening!



KEPS TRADE MARK

The pre-assembled nut and "SHAKEPROOF" Lock Washer

Two parts are handled as one . . . lock washers can't drop off. Every nut is locked tight by the powerful tapered-twisted locking teeth of a "SHAKEPROOF" Lock Washer.

INCREASE PRODUCTION AND CUT COSTS WITH KEPS. WRITE FOR FREE TESTING SAMPLES AND KEPS DATA BOOK TODAY!

SHAKEPROOF inc.
Division of Illinois Tool Works
2501 North Keeler Avenue, Chicago 39, Illinois

BREVITY—Identify by IEN - 6195 if you write the maker

NEW *simple accurate versatile* Odee-HONE

For honing all types of External Cylindrical Surfaces. A single tool for all parts from ½" to 2½" in diameter.

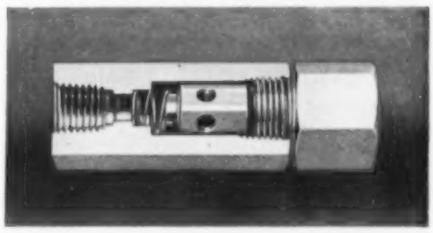
GENERATES ACCURATE SIZE, ROUNDNESS, STRAIGHTNESS, AND FINISH ON

Spindles	Pistons and	Test bars
Shafts	piston rods	Die pins
Guide pins	Rollers	and
and bars	Plungers	similar parts

For complete information write or call—

MICROMATIC HONE CORPORATION
8100 Schoolcraft Avenue • Detroit 4, Michigan

BREVITY—Identify by IEN - 6196 if you write the maker



KOHLER *Precision Parts*

AIRCRAFT • INDUSTRIAL • AUTOMOTIVE

KOHLER PRECISION PARTS are used by manufacturers of Diesel engines, automobiles, trucks, tractors, jet engines, military, commercial and private aircraft, and for agricultural and industrial test equipment.

With an organization experienced and skilled in precision workmanship, Kohler maintains full facilities for forging, casting, machining and anodizing.

Kohler engineers will develop precision valves and fittings for volume production to meet special applications. Write for a catalog and send your specifications or requirements.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

Plumbing Fixtures • Heating Equipment
Electric Plants • Air-Cooled Engines • Precision Parts

BREVITY—Identify by IEN - 6197 if you write the maker

- ★ Mechanizes handling in hazardous areas
- ★ Reduces man-hours for handling
- ★ Increases storage capacity
- ★ Speeds loading and unloading

This Baker Electric Fork Truck is the only mechanized handling equipment permitted to operate in the oil storage house of this company, where it saves time and space by handling and tiering drums of flammable material. Whatever your truck handling problem, efficient, safe Baker Trucks can bring you the cost-saving benefits of mechanized handling throughout all your departments.

TODAY MORE THAN EVER—*Manpower savings* and *more efficient use of storage space* are of prime importance. Baker Fork Trucks can often eliminate the need for new construction. Let us show you how.

BAKER INDUSTRIAL TRUCK DIVISION
of The Baker-Raulang Company
1226 WEST 80th STREET • CLEVELAND 2, OHIO

Baker INDUSTRIAL TRUCKS

BREVITY—Identify by IEN - 6198 if you write the maker

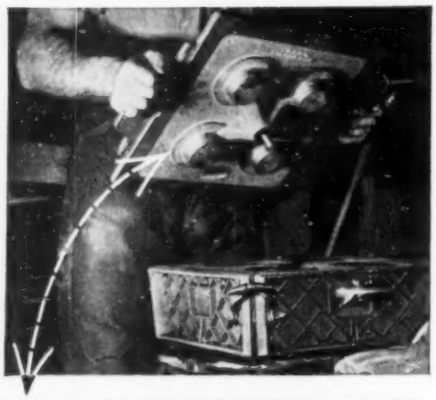
Small space requirement and low cost make Mercury Electric Counters ideal for built-in applications. Low current draw (approx. 2 watts). Enclosed working parts, tamper-proof case. Speeds to 600 CPM and more. Operates in any position. Non-reset. Counts anything that will operate an electric switch or electric-eye.

Counting Problems SOLVED

Send for Catalog or tell us what you want to accomplish.

Production Instrument Company
700-10 W. JACKSON BLVD., CHICAGO 6, ILL.
Representatives in Principal Cities

BREVITY—Identify by IEN - 6199 if you write the maker



MATCH PLATE MOUNTING BOARD
COSTS CUT 84%

Huge material savings and rugged resistance to wear—qualities that spotlight GPX, Georgia-Pacific's plastic-faced plywood, as a "natural" for foundry match plates.

GPX has saved up to 84% on match plate mounting board costs for the Cooper Alloy Foundry Co., of Hillside, N. J., world's largest producer of stainless steel castings. They put GPX to the test and report that:

GPX doesn't warp or split under the pressure and violent vibration that moulding machines subject it to. Silky-smooth and moisture resistant, GPX has drastically cut refinishing costs and rejects; hot, damp moulding sand cannot adhere to or penetrate its armor-hard surface. GPX is stable, doesn't shrink or warp in repeated use or prolonged storage.

GPX in exclusive 95/95 grade, and other specialized GPX grades, for concrete form use, general use, exterior and interior painting, have been working production miracles and cutting costs for hundreds of manufacturers—how about you?

GP *GEORGIA—PACIFIC*
PLYWOOD COMPANY

Offices or Warehouses in: Augusta, Birmingham, Boston, Chicago, Columbia, Louisville, Memphis, Nashville, Newark, Olympia, Philadelphia, Portland, Raleigh, Richmond, Savannah.

For complete data, fill in and mail this coupon *today*

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Plastic Plywood Division
Maritime and Dock Streets
Port Newark 5, N. J.
Please send me GPX Use Folder.
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NEW LITERATURE—Continued

"Designations to help check your file"

HEATING . . "Counterflo" direct-fired space heaters to 2,000,000 btu. per hr.; description, steel requirements. Bulletin 526, 8 pages. Dravo Corp., Liberty & Fifth Aves., Pittsburgh 22, Pa. **IEN-0659**

HEATING . . Electric unit heaters to 45 kw.; estimating, wiring, controls on wall, ceiling, portable types. Catalog EC-62-R, 8 pages. Electromode Corp., 43-47 Crouch St., Rochester 3, N. Y. **IEN-0660**

HEATING . . Electric heating elements; data on strip, immersion, space units, melting pots, thermostats. Bulletin 74-TA, 24 pages. Trent Inc., 245-49 Leverington, Phila. 27, Pa. **IEN-0661**

HEATING . . Electric elements in strip, immersion, fin types; also melting pots, hot plates, controls. Catalog 51, 16 pages. Waage Electric Inc., 54-H Park Place, New York 7, N. Y. **IEN-0662**

HINGES . . For cabinets, doors, panels, concealed when closed; models, illustrated design suggestions. "How to Obtain," 24 pages. Soss Mfg. Co., 21775-79 Hoover Road, Detroit 5, Mich. **IEN-0663**

HOISTS . . Cable-type electric hoist, 1 to 5 ton; two-page cutaway view with specifications. Folder, "Bob-Cat," 6 pages. Ohio Hoist & Mfg. Co., Henry & Broad Sts., Cleveland 5, Ohio **IEN-0664**

HOISTS . . Motor-driven trolley hoists, fluid coupling drive; data on ½ to 10-ton units. Bulletin 805-A, 12 pages. Robbins & Myers Inc., 1343-47 Lagonda Ave., Springfield 99, Ohio **IEN-0665**

INDEXING . . Universal dividing collet head, 1-in. capacity; application setups. "Collet Head," 4 pages. Mateo Tool Div., Center Tool & Mfg. Co., 2704-8 W. Van Buren, Chicago 12, Ill. **IEN-0666**

INSULATING . . Porcelain electrical parts; picture examples glazed and unglazed, refractory types. Bulletin, 6 pages. Akron Porcelain Co., 2717-21 Cory Ave., Akron 1, Ohio **IEN-0667**

ISOLATING . . "Vibrashock Met-L-Flex" mountings to isolate against shock and vibration; performance. Catalog 660-51, 4 pages. Robinson Aviation, 49 Industrial Ave., Teterboro, N. J. **IEN-0668**

LATHES . . Swiss automatic screw machine, 7/16-in. stock capacity; features, attachments. "Tornos Model R-10," 8 pages. Carl Hirschmann Co., 28-32 Park Ave., Manhasset, N. Y. **IEN-0669**

LOCKS . . Pin-tumbler locks with tubular keys for plant use; operation, models, duplicates, masters. Folder PS-101, 6 pages. Chicago Lock Co., 2022-26 N. Racine Ave., Chicago 14, Ill. **IEN-0670**

LUBRICATING . . "Dag" colloidal graphite for parting compound; description by industry use. Bulletin 427, 6 pages. Acheson Colloids Corp., 2900 Washington Ave., Port Huron, Mich. **IEN-0671**

LUBRICATING . . Spring-bottom and hydraulic oilers; illustrated models, suggestions on use. "Helping to Make . . ," 16 pages. Eagle Mfg. Co., 51 Industrial Blvd., Wellsburg, W. Va. **IEN-0672**

MARKING . . Rubber type and holders for printing and marking use; type-face specimens, dates. Pocket folder, "Base-Lock," 12 pages. Wm. A. Force, 214-18 Nichols, Brooklyn 18, N. Y. **IEN-0673**

MILLING . . Gear hobs, milling cutters, slitting saws, end mills, keyway cutters; stock sizes, list prices. "Stock List," 44 pages. Illinois Tool Works, 2503 N. Keeler Ave., Chicago 39, Ill. **IEN-0674**

MOTORS . . Types EP and JP enclosed polyphase squirrel-cage units, 2 to 250 hp.; construction highspots. Folder MU-132, 4 pages. Wagner Electric Corp., 6488 Plymouth, St. Louis 14, Mo. **IEN-0675**

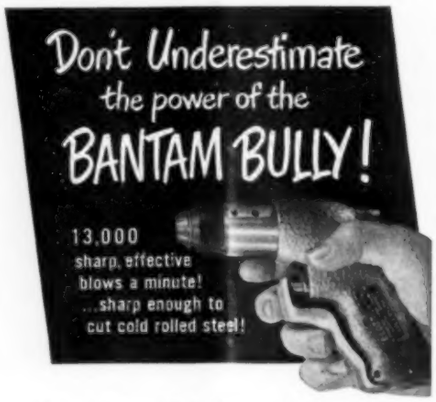
OIL CONDITIONING . . Equipment to keep oil clean continuously; examples of use. "Facts about Clean Oil," 16 pages. Honan-Crane Corp., 510 Indianapolis Ave., Lebanon, Ind. **IEN-0676**

PACKAGING . . Stapling machine for filled cartons; details, notes on manual and automatic use. "Seam Stitcher," 6 pages. American Machine Wks., 1318-22 Clark St., Racine, Wis. **IEN-0677**

PACKAGING . . Transparent plastic containers; drawings and sizes on standard designs, features, specials. Catalog 338, 4 pages. Shoe Form Co., 10-14 De Witt St., Auburn, N. Y. **IEN-0678**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6201 if you write the maker



The amazing Bantam Bully air hammer gives you real power in an easy-to-use size. It is 5" long and weighs only 22 ozs. Exclusive metering trigger regulates the power from a feather touch to a powerful blow. Full speed and power attained on less than 6½ C.F.M. of air.

Use it for scaling, chiseling, peening, tamping, cutting, routing, grooving, caulking, channeling, chipping, driving, drilling, marking, and hundreds of other applications.

Write for full details on the Bantam Bully, Big Bully, Bully blow gun and the Bully Fulflo air filter.

Superior Pneumatic division of **Herbrand Tools**
4758 WARREN ROAD, GARFIELD HEIGHTS, OHIO

BREVITY—Identify by IEN - 6202 if you write the maker

New! Low-Cost! Wide-Range!
VARIABLE Speed Sheaves
Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

● **Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.**

- Standard V-belts
- Automatic belt alignment
- Fixed shaft centers
- LOW COST

Write **FOR FREE BULLETIN**

SPEED SELECTOR INC.
118-A Noble Court • Cleveland 13, Ohio

BREVITY—Identify by IEN - 6203 if you write the maker

Ever See a Car ***Without Fasteners?***

Approximately 2-1/2% of the steel produced is used to fasten the rest together!

You wouldn't give much for a car like this, would you? Yet that's the way it would look without fasteners.

Yes, fasteners *are* important. That's why it pays to select bolts and nuts for your product as carefully as you select the finish.

Lamson & Sessions

The LAMSON & SESSIONS Co., General Offices: 1974 West 85th Street • Cleveland 2, Ohio
Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

BREVITY—Identify by IEN - 6204 if you write the maker

Erickson PRECISION COLLETS

Are Air Tools Equipped With Erickson Collets

High Speed . . . Rigidity . . . with Safety!

Famous Aro Air Tools changed to Erickson Precision Collets. Superior gripping power and concentricity even at speeds of 75,000 r.p.m. give longer bearing life; greater safety.

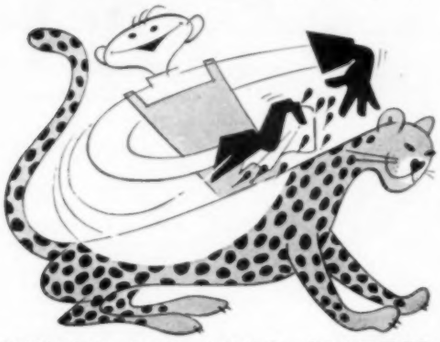
ERICKSON TOOLS SOLVE HOLDING PROBLEMS:

1. Accuracy of .0005" T.I.R. guaranteed.
2. 7 "single purpose" collets replaced by 1 Erickson collet.
3. Superior holding power — grips along entire length of collet.
4. Grips on flutes—permits stubbing of drills.
5. There is an Erickson collet, mandrel, air chuck, or indexer to answer each of your holding problems.

Write for Catalog "J"

ERICKSON TOOLS DIVISION
2317A HAMILTON AVE. • CLEVELAND 14, OHIO

BREVITY—Identify by IEN - 6205 If you write the maker



WHISK OFF WELD SPATTER

You speed up welding—and save up to 85% of weld cleaning time and labor—when you apply Protect-O-Metal No. 2 before welding. Just brush or spray it in weld seam and adjacent metal—weld—then whisk off weld spatter in a matter of seconds. Protect-O-Metal will not cause smoke, fumes, or odors. One coat serves for single or multi-pass welding. Costs 1/10 cent per foot of weld, saves up to three times its cost in time savings alone. Order a trial gallon ($3.25) satisfaction guaranteed or invoice will be cancelled.

PROTECT-O-METAL

POM

G. W. SMITH & SONS, INC. GWSMITH 5404 Kemp Rd., Dayton, O.

BREVITY—Identify by IEN - 6206 If you write the maker

"Sure we use SKIL tools...we use only dependable equipment,"

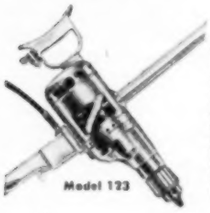
says S. J. AUSTIN

Construction Superintendent, Brewster, Florida Plant

AMERICAN CYANAMID CORPORATION

"We've got to have dependable tools to maintain the more than 200 buildings at this plant," says Mr. Austin. "That's why we use SKIL Saws, Sanders and Drills. They've got the power to do the work and they require very little maintenance."

You can rely on job-proved SKIL Tools. Take SKIL Drills for example—25 models to solve every drilling problem in production, installation, maintenance or repair. Your nearby SKIL Distributor will make recommendations for drills for your work and give you a demonstration.



Model 123

SKIL Drill—Model 123

¾ inch drill, heavy duty. Tremendous motor power. Rugged mechanical construction. Capacity in steel: 3/16" to ¾"; capacity in hardwood: 3/16" to 2"; capacity steel reaming: ⅝". No load speed: 375 r.p.m. Slower and faster speeds available. Overall length: 20", weight: 27¼ pounds. One of 25 models. See your SKIL Distributor for demonstrations and complete information.

Model 80 Model 243 Model 47

SKIL Products are made only by SKILSAW, Inc.

5033 Elston Avenue, Chicago 30, Ill.

SKIL PORTABLE TOOLS

Factory branches in principal cities

In Canada: Skiltools, Ltd., 3601 Dundas St. West, Toronto, Ont.

BREVITY—Identify by IEN - 6208 If you write the maker

WELDING . . Spot weld machine employs stored energy power unit

Source: RAYTHEON MFG. CO.
188-92 Willow St., Waltham 54, Mass.

Two power units are now available for use with the Model G head, previously described IEN-6559-50, in the company's Weld-power line. The smaller of the two, shown in the illustration, rates 63 watt-sec. with maximum peak current of 3,000 amp. on discharge time between 0.003 and 0.0166 second. The new unit rates 225 watt-sec., 11,000 amp. and has a discharge time of 0.003 to 0.0166 second. Both operate on 110-volt single-phase 60-cycle ac. with current respectively at 7 and 8 amp. average on maximum welding rate.

Electrostatic energy is stored in a capacitor in the power unit over a period of about one sec. by means of a rectifier tube. The amount of energy stored is dependent upon the charging voltage, which can be varied. The capacitor is discharged into the primary of the welding transformer by a tube acting as an electronic switch. The discharge interval is a few milliseconds. The discharge creates a welding current of high magnitude and low voltage at the electrode tips. The equipment is suited particularly for precision welding as in instruments, electronic equipment, electrical appliances.

BREVITY—Identify by IEN - 6209 If you write the maker

TRUCK . . Hand lift wheel jack and trailer platforms, to 1½ ton

Source: LANSING CO.
600 N. Cedar St., Lansing 12, Mich.

Illustrated is recently improved design of the company's Lanco Lift-Jack truck equipment, previously described IEN-3856-39. Load rating for each platform is 1½ ton. The jack will lift this weight without undue effort on the operator's part and without danger of kick back or slipping. One jack applies with a number of the platforms which mount feet at one end and wheels at the other. Platform sizes are to specification. Wheels under the platform and on the jack are rubber-tired roller-bearing design. Hardwood decks are assembled in angle-iron frames in the platform units.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6210 If you write the maker

READINGS AT A GLANCE

for BOTH AC and DC

Instant Current Measurements Without Breaking Circuit or Insulation . . .

You can read 'em fast and accurately with the Columbia Tong Test Ammeter by merely clamping the tongs around the electrical conductor. Tong Test is the only instrument of its type that can measure both AC and DC. Cannot burn out for it has no windings. Safe, convenient and light in weight. Interchangeable scale ranges up to 1000 amperes. Five types to accommodate cables up to 3⅞", bus bars up to 4½" x ½". Voltage readings, too, with the Voltor Attachment.

Write for Tong Test Bulletin IQ-400

COLUMBIA COLUMBIA ELECTRIC MFG. CO.
4519 Hamilton Ave., Cleveland 14, Ohio

BREVITY—Identify by IEN - 6211 If you write the maker

No Spillage No Shortage of Materials in Bins, Hoppers, etc. with

SYNTRON

HOPPER LEVEL SWITCHES

—automatically maintaining constant full and empty levels of materials—from fine to coarse—in bins and hoppers.

They will start and stop feeders filling hoppers—or ring alarm bells—or turn on lights—from material pressure, or the lack of it.

Write for catalog data

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 6212 If you write the maker

THESE PUPPETS HAVE PLENTY TO SHOW!

Looking for component parts or products of complicated shape—with made-to-your-order chemical and physical properties?

You'll find your answer in VINYLITE Brand Dispersion Resins, such as these extremely detailed puppets are made of. They can be molded with deep undercuts—at low pressures and low costs—in widely varied formulations to suit your needs. They strongly resist oils, greases, alkalies, most strong acids, moisture, aging, abrasion. They are widely used for such items as work gloves, coated floorings, rain boots, tool handles, dish drainers, to name a few.

VINYLITE Dispersion Resins permit broad control over color, flexibility, softness. Elastomeric materials based on them can be used for spread and dip coatings, paper or cloth coatings, cast film, or slush molding.

They may well help you improve your parts and products, speed production, lower costs. We'll gladly put you in touch with compounders using them and send you our technical data book, "VINYLITE Resins—Dispersion Coatings." Write Dept. KL-3.

"Zany" Character Puppets by Jay V. Zimmerman Company, 520 N. Leonard Ave., St. Louis, Mo. Heads by Geneve Mfg. Corp., Trenton, N. J.

Vinylite BRAND **RESINS**

TRADE MARK

BAKELITE COMPANY

A Division of Union Carbide and Carbon Corporation

30 East 42nd Street, New York 17, N. Y.

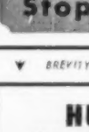
BREVITY—Identify by IEN - 6214 if you write the maker

The economical, sure way—to avoid ROT and TERMITE damage!

Where steam and vapor from industrial processes are prevalent wood decay is accelerated—use Wolmanized lumber to avoid costly damage.

Wolmanized* *pressure-treated* Lumber assures *lasting* protection. High pressure (150 p.s.i.) drives the preservatives deeply into the wood. Volumetric absorption of the preservative solution is measured in gallons per cubic foot—not in feet of coated surface.

Millions of feet of Wolmanized pressure-treated Lumber have been in service under severest conditions, for years. Write for facts about Wolmanized Lumber. Or, ask for copy of "Service Records" of uses in scores of industries and applications.



American Lumber & Treating Co.
1641 McCormick Bldg., Chicago 4, Ill.

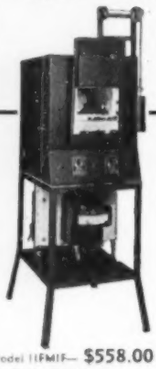
*Wolmanized is a registered trademark of American Lumber & Treating Co.

Wolmanized PRESSURE TREATED Lumber
Stops Rot and Termites

BREVITY—Identify by IEN - 6215 if you write the maker

HUPPERT STANDARD HEAT TREATING FURNACE

can now also operate in oven temperature range



The automatically controlled temperatures on the Model 11FMIF assures your production line of consistent heating performance and accurate temperature control. This sturdy, heavy-duty furnace is multi-insulated and of steel construction—built for continuous operation. Door is counterweighted and wedge type for positive closing. Removable porcelain tray. Operates on 220 Volt Single Phase, 4KW max. load. I.D. 8" x 6" x 12".

Model 11FMIF— $558.00
Model 11FM (without interlocks)— $475.00

OTHER HUPPERT FURNACES

MODEL No.	I.D.	MAX. TEMP.	PRICE
869FMIF	8" x 6" x 9"	2200° F.	$535.00
12FMIF	6" x 8" x 12"	2000° F.	$620.00
12A-FMIF	8" x 8" x 18"	2000° F.	$745.00

K. H. HUPPERT CO.
6856 Cottage Grove Avenue Chicago 37, Illinois
Manufacturers of Electric Furnaces and Ovens

BREVITY—Identify by IEN - 6216 if you write the maker

June, July and August . . .

These are the months to buy REZNOR heaters for year-around comfort . . . lots of heat in winter, air circulation in summer. Reznor gas heaters are used singly or in multiples for any commercial, industrial or residential space requirement. You will agree that these heating machines lead all others in appearance, performance and economy.

Hung from ceiling or mounted on floor

REZNOR MANUFACTURING CO
10 UNION ST. MERCER, PENNA.
Send me 20 page catalog in full color

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

NEW LITERATURE—Continued

"Is your company's new literature included?"

PACKAGING . . Moisture-barrier papers to meet JAN specifications; file folder of samples and data. Catalog, 15 sheets. H. P. Smith Paper Co., 5003 W. 66th St., Chicago 38, Ill. **IEN-0679**

PACKAGING . . Examples of consumer product packaging in cartons. "Package Improvement Bulletins 1 and 2," 4 pages. United Board & Carton, 154-58 Solar St., Syracuse 4, N. Y. **IEN-0680**

PACKAGING . . Model-CE automatic machine to weigh and fill cookies, crackers; operating description. "Hy-Tra-Lee," 8 pages. Wright Machy., Calvin & Holloway, Durham, N. C. **IEN-0681**

PAINTING . . Electrostatic unit for paint spray equipment to minimize overspray; description, diagrams. "Paint Miser," 4 pages. Ashdee Products, 18027-31 Dixie, Homewood, Ill. **IEN-0682**

PAINTING . . Type MD-565W aluminum paste for use as paint pigment; review of properties. Bulletin 518, 4 pages. Metals Disintergrating Co., 1188-92 Arthur Blvd., Elizabeth, N. J. **IEN-0683**

PAINTING . . "Neolac 600" glossy air-dry enamel for metal, wood, concrete; properties, application instructions. Bulletin 239, 4 pages. U. S. Stoneware Co., Brimfield Rd., Akron 9, O. **IEN-0684**

PHOTOGRAPHING . . Recording oscilloscope images with Polaroid-Land camera; instructions. "Oscilloscope Camera," 4 pages. Fairchild Camera, 88-04 Van Wyck, Jamaica 1, N. Y. **IEN-0685**

PIPE FITTINGS . . Rotary joints for 50 to 2,500 rpm.; sectional views, sizes and ratings, installation. Catalog 300, 8 pages. Barco Mfg. Co., 1804 W. Winnemac, Dept. J-12, Chicago 40, Ill. **IEN-0686**

PIPE FITTINGS . . Corrosion-resistant light-wall units; types, sizes, assembly, cost estimate. "Speedline Fittings," 8 pages. Horace T. Potts Co., D St. & Erie, Philadelphia 34, Pa. **IEN-0687**

PIPE FITTINGS . . Expansion joints in sizes to 30 ft.; design features, types, examples, flexible connectors. Bulletin 351, 4 pages. Zallea Brothers, Locust & Taylor, Wilmington 99, Del. **IEN-0688**

PISTON RINGS . . In a range of 13 models, 1 to 96 in.; details on "Sealock" design, installation diagrams. Catalog 101-A, 16 pages. Double Seal Ring Co., P. O. Box 550, Fort Worth 1, Texas **IEN-0689**

PLASTIC MOLDING . . Injection machine, 2-oz. capacity; specifications, molding cycle. "Semi-Automatic Press," 2 pages. Van Dorn Iron Works, 2683-87 E. 79th, Cleveland 4, Ohio **IEN-0690**

PLASTICS . . Saran and polyethylene tube, pipe, valves, fittings; properties, sizes, fabrication. "Aec-Saran," 16 pages. American Hard Rubber Co., 11 Mercer, 1st Flr., New York 13, N. Y. **IEN-0691**

PLASTICS . . Thermosetting molding powders for specification MIL-P-14A; properties on 31 types. Booklet CDC-195, 36 pages. General Electric Co., 101 Plastics Ave., Pittsfield, Mass. **IEN-0692**

PLATING . . Lead-clad copper anodes for chromium plating; properties, forms. "Electro-Cupralum Anodes," 6 pages. Knapp Mills, 23-17 Borden Ave., Long Island City 1, N. Y. **IEN-0693**

PRESSES . . Mechanical, 5 to 55 ton in 12 sizes, for multiple operation work; examples. "Automatic Transfer Presses," 6 pages. Baird Machine Co., 1792 Stratford Ave., Stratford 9, Conn. **IEN-0694**

PRESSES . . Inclinable power presses, 70 and 75 ton; construction points, dimensional drawings. Bulletin, "Model 650-B," 4 pages. Perkins Machine Co., 3 Perkins Ave., Warren, Mass. **IEN-0695**

PRESS TOOLS . . Punches in a range of designs; drawings, list prices, applications. Catalog 514, 10 pages. Pivot Punch & Die Corp., 371-75 Old Falls Blvd., North Tonawanda, N. Y. **IEN-0696**

PROCESSING . . Equipment for mixing, pulverizing, classifying, synthesizing; summaries. Catalog CEC-50, 36 pages. Patterson Fdy. & Machine, 50 St. George, East Liverpool, Ohio **IEN-0697**

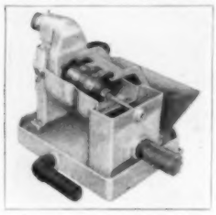
PROCESSING . . Heaters, dryers, ovens for a variety of process applications; picture review. "Role of Ross," 8 pages. J. O. Ross Engineering, 444 Madison, Rm. 1802, New York 17, N. Y. **IEN-0698**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

BREVITY—Identify by IEN - 6217 if you write the maker

A PAID NEWS ADVERTISEMENT BY HONAN-CRANE CORP.

COOLANT FILTRATION . . . Magnets remove over 98% of all contamination



New Houdaille Magnetic Filter, for machine tools such as wet surface grinders, milling machines, gear shapers, etc., removes over 98% of contaminants from liquid coolants (mineral oils and soluble oil solutions)—provides continuous flow of clean coolant to the work or machine sump for re-use. Compact unit measures 22⅝" long by 16½" high by 22" wide.

Removal of contaminants accomplished by permanent ring magnets enclosed in revolving non-magnetic cylinder. Circular steel discs, end pieces of the cylinder acting as magnetic poles, seal off magnet cores to prevent fluid from contacting magnets. Design provides 360° constant magnetic attraction.

Turbulent flow of coolant beneath cylinder keeps metallic particles in suspension until attracted to metallic poles. Abrasive non-magnetic particles entrained with magnetized contaminants are collected by non-magnetic wiper trough, fitted to magnetic cylinder. Friction eliminated as trough does not rub on cylinder—using instead accumulation of magnetized particles to wipe mass of contamination as cylinder revolves past trough.

Unit rated at 20 GPM. Provisions in design prevent spillage when operated above rated capacity. Operates on 1/12 hp. 60 cycle 110 volt single phase motor. Requires no maintenance—provides longer tool and wheel life, better finishes, fewer rejects. Write for equipment bulletin.

HONAN-CRANE CORPORATION
subsidiary of HOUDAILLE-HERSHEY CORP.
802 Wabash Avenue, Lebanon, Indiana

BREVITY—Identify by IEN - 6218 if you write the maker

We've Built a BETTER HANDLE!

FOR MANUFACTURERS OF PORTABLE EQUIPMENT, CARRYING CASES, PARTS BOXES, Etc.!

- non-rattling
- rugged construction
- rust-proof
- meets Air Force and other Government specifications

Here is the handle you have been looking for—one that is ideally suited for anything that must be lifted by a side carrying handle. Because we could not buy anywhere a satisfactory handle for the thousands of cases manufactured by Bendix and needing such an item, Bendix-Friez engineers developed this handle to meet Air Force and other Government specifications for many kinds of special equipment. The unique, rugged design of this handle, with its "snap-back" feature, is such that neither shock nor vibration will cause it to rattle. Built of aluminum and stainless steel, it can be riveted or welded to the side surfaces of any kind of container or depressed in the sides. Available in large or small lots, orders filled promptly. Write for prices.

Bendix-Friez

FRIEZ INSTRUMENT DIVISION of Bendix
1328 Taylor Avenue
Baltimore 4, Maryland

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N.Y.

BREVITY—Identify by IEN - 6219 if you write the maker

FOR SOLUTIONS TO YOUR ELECTRICAL PROBLEMS—

look behind the Graybar tag

LOOK AT THE MEN

Your local Graybar Representative *knows* electrical products . . . knows how they can best be used to meet your everyday requirements. You can also rely on him to provide complete information on deliveries and availability of materials in your area.

Experienced Graybar Specialists in the major electrical fields are available for consultation. You'll find them well-qualified to give you sound advice on technical problems or help in the selection of materials.

LOOK AT THE MATERIALS

Graybar distributes more than 100,000 different electrical items — products made by 200 leading manufacturers. Quotation and information service covering all of them is always available to help you or your electrical contractor compile estimates and specifications.

Subject to defense regulations, Graybar can supply — on a single order — materials, equipment, and tools for wiring, lighting, ventilation, communication, or power.

LOOK AT THE METHODS

Modern inventory systems . . . a nationwide network of warehouses backed by emergency stocks . . day-by-day knowledge of the over-all supply picture — all these help your near-by Graybar office minimize the effects of current shortages. When you "buy via the Graybar tag", you take advantage of a proven ability to deliver the goods.

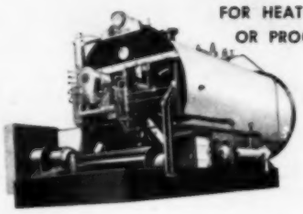
Graybar Electric Company, Inc. Executive offices: Graybar Building, New York 17, N. Y. 158-126

Avoid electrical delays — plan ahead . . . via GraybaR IN OVER 100 PRINCIPAL CITIES

BREVITY—Identify by IEN - 6221 if you write the maker

STEAM

FOR HEAT OR PROCESS



A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability.

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 317

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Factory: Emmaus, Pa.
Exec. Offices: Times Bldg, Times Sq., New York N. Y.
SUPERIOR STEAM GENERATORS

BREVITY—Identify by IEN - 6222 if you write the maker

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . . models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

BREVITY—Identify by IEN - 6224 if you write the maker

PUMP . . Oil sealed vacuum unit rates 2 cfm. displacement, ¼ hp.

Source: KINNEY MFG. CO.
3564 Washington St., Boston 30, Mass.

Model CVM-3153 is recent addition to the company's line of vacuum pumps. It can be employed alone or as a forepump in vacuum production. It produces McLeod gage absolute-pressure reading of 0.1 micron or better on a blank test.

Overall dimensions are about 15 by 11 by 13 inches. Drive is by a belt-connected ¼-hp. motor. Weight is 70 pounds. A mechanical seal is employed on the drive shaft of the assembly.

BREVITY—Identify by IEN - 6225 if you write the maker

PRESS TOOLS . . Standardized punches available in four standard qualities

Source: PIVOT PUNCH & DIE CORP.
371-75 Old Niagara Falls Blvd., North Tonawanda, N. Y.

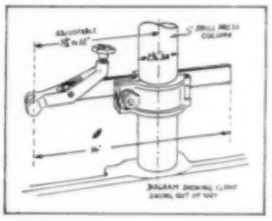
Catalog publishes complete data

The company announces standardization of its line of punches so it now is able to supply any shank type in removable or headed design in any point lengths, point diameter and overall length at a standardized price. Four qualities employ high speed steel with grinding parallel to the axis of the punch and the company's patented whipsleeve to absorb vibration, high-speed steel also ground parallel but without the whipsleeve, high-speed steel with cylindrical grinding and carbon steel cylindrically ground.

BREVITY—Identify by IEN - 6226 if you write the maker

CLAMP . . Adjustable fork type holds fixture or work for drilling

Source: WETZLER CLAMP CO.
43rd Ave. & 11th St., Long Island City 1, N. Y.



List price is $13.50 for this new drilling-machine clamp. It includes a bracket that fits on a 2⅝-in. machine column, an adjustable arm to slide in the bracket, and a hinged clamping fork with a tightening knob and screw. The fork straddles a drill and can be employed to hold work directly or to secure a drill fixture. Reach is between 7½ and 12 in. measured from the center of the machine column to the contact point at the fork end.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 6227 if you write the maker

ATLAS ROLLER CHAIN

SERVING THE NATION

WITH NATIONAL SERVICE

Coast to coast . . . border to border . . . Atlas Roller Chain and the incomparable Atlas service is available to you through hundreds of progressive experienced power transmission distributors.

Each and everyone is ready, willing and able to show you how Atlas Roller Chain can help speed your production, cut down your maintenance and increase the utilization of your power.

Atlas Roller Chain is built to give longer service under the toughest operating conditions. The Atlas Nicarb Process of heat treating gives every roller, link, bushing and pin that *extra* life so necessary with today's production goals.

ATLAS CHAIN & MANUFACTURING CO., PHILADELPHIA 24, PA.

BREVITY—Identify by IEN - 6228 if you write the maker

Production Costs Reduced with FULLERGRIPT Brush

Costly hours of scrubbing plate glass by hand eliminated. Fullergript brushes, a detergent, and a spray of distilled water thoroughly clean glass prior to silvering for mirrors.

Fullergript brush on oyster dredge prevents chips of oyster shells from accumulating on belt. Saves six hours of hand labor every trip.

In many industries the answer to numerous problems of economical processing and of materials handling has been found in Fullergript power brushes. Fullergript strips, in which the brush material is anchored securely in a metal channel, may be formed into any size or shape. To learn what Fullergript can do for you, simply write to . . .

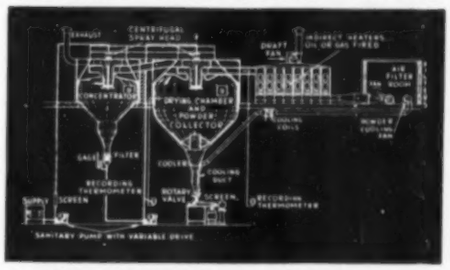
Power Driven

FULLERGRIPT BRUSHES

3583 MAIN ST., HARTFORD 2, CONN.

BREVITY—Identify by IEN - 6229 if you write the maker

IMPROVED DEHYDRATING SYSTEM



Centrifugal Spray Dryer and Concentrator

For dehydrating

- Chemicals
- Pharmaceuticals
- Blood or Blood Plasma
- Milk Products
- Eggs
- Vegetables
- Coffee and many other Products

A complete spray drying plant employing a unique centrifugal type spray head. No high-pressure pump is used, and due to the design of the spray head, emulsions as well as solutions can be dried. No clogging or wearing of nozzles is caused by the suspended solids. The powder is collected and cooled in the drying chamber.

Concentrator Available Separately

Concentrator can be operated as separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining natural flavors and vitamins.

WRITE FOR FREE BOOKLET

Attractive bulletin illustrates and describes spray drying plants; explains operation in detail. Shows plan views; application photos. Send for your FREE copy today.

651

DRYING & CONCENTRATING CO., 332 S. Michigan Ave., Chicago, Ill.

BREVITY—Identify by IEN - 6230 if you write the maker

Are You Finishing Your Metal Parts the Economical Way?

with ALUNDUM Tumbling Abrasive and the Barrel-Finishing Process?

You can remove objectionable heat scale, burrs, tool marks and dirt from your metal parts quickly and economically with the barrel finishing process and with ALUNDUM Tumbling Abrasive—the ideal barrel finishing medium. You can finish large quantities of parts to exact dimensions and degrees of surface finish and prepare them for plating—ALL IN ONE OPERATION!

If you don't have barrel finishing equipment, Norton will be glad to make test runs for you.

NORTON COMPANY, WORCESTER 6, MASS.
Distributors in All Principal Cities

NORTON ABRASIVES

G-230

BREVITY—Identify by IEN - 6231 if you write the maker

THE *Universal* FLEXIBLE METAL HOSE

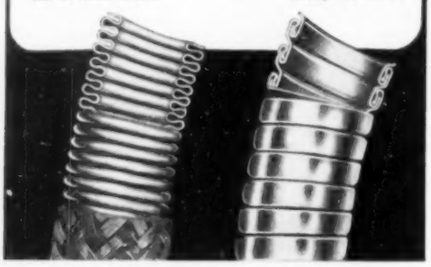
• In All Available, Workable Metals
• In Sizes From ⅛" to 30" Diameters

STANDARD
We offer you a wide selection of flexible metal hose for conveyance of gases, liquids, semi-solids, dust, etc. — for moisture-proof armored conduit and control casings — and many other applications.

SPECIALS
Our engineering department will offer detailed recommendations on any special problems without obligation to you.

Write for UNIVERSAL METAL HOSE Catalog U-101

UNIVERSAL METAL HOSE CO.
2131 S. Kedzie Avenue Chicago 23, Illinois



BREVITY—Identify by IEN - 6232 if you write the maker

YOU need this new book on practical metal cleaning

SEE many interesting illustrations showing numerous industrial applications of VAPOR DEGREASING

READ information-packed pages that show you—

★ How Vapor Degreasing saves time, cuts costs and boosts production.
★ Where Vapor Degreasing is used profitably and economically.
★ Which cleaning procedures and types of equipment are available for Vapor Degreasing.
★ How Du Pont Technical Service can help you in the application of Vapor Degreasing.

DU PONT *non-flammable* SOLVENTS for VAPOR DEGREASING
SOLD NATIONALLY THROUGH DISTRIBUTORS

DU PONT
REG. U.S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

SEND for your copy today!

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department, Wilmington 98, Delaware
Please send me my copy of **Vapor Degreasing with Du Pont nonflammable solvents.**
Name_____ Position_____
Street & No._____
Firm_____
City_____ State_____

NEW LITERATURE—Continued

"Alphabetical to help you check"

PROTECTING . . "Iron Age" steel-toe safety shoes; descriptions on oxford, standard, rubber types. Catalog 51, 24 pages. H. Childs & Co., 811-15 Penn Ave., Pittsburgh 22, Pa. **IEN-0699**

PROTECTING . . Transparent-plastic machine guards with magnetic bases; models, list prices. "Stand Guard," 4 pages. Dilley Mfg. Co., 1659 Ansel Road, Cleveland 6, Ohio **IEN-0700**

PROTECTING . . Safety belts, straps, tool holsters, bags, tools; illustrated descriptions and sizes. Catalog R-2, "Safety Products," 28 pages. Miller Equipment Co., 3 New St., Franklin, Pa. **IEN-0701**

PROTECTING . . Face shields with plastic visor for impact or chemical resistance; condensed data. Bulletin CN-4, 4 pages. Mine Safety Appliances Co., 21 Braddock Ave., Pittsburgh 8, Pa. **IEN-0702**

PUMPS . . Single-stage split-case centrifugal, 25 to 4,000 gpm.; illustrated construction details, performance table. Bulletin 5004-A, 8 pages. Deming Co., 184-88 Broadway, Salem, Ohio **IEN-0703**

PUMPS . . Flexible-tube reciprocating-finger pump for liquids, gases; operation, capacity table. "Sigmamotor," 4 pages. E and M Enterprises Inc., 3-7 Vernon St., Middleport, N. Y. **IEN-0704**

PUMPS . . Cast-resin pumps and drains for acids and alkalis, "Karbate" heat exchangers; properties, sizes. "Nu-Kast," 4 pages. Nukem Products, 113-15 Colgate, Buffalo 20, N. Y. **IEN-0705**

PUMPS . . "Fluid Power" hydraulic pumps, power units, transmissions, cylinders, valves; data summaries. Bulletin 10051-A, 8 pages. Oilgear Co., 1596-60 W. Pierce, Milwaukee 4, Wis. **IEN-0706**

REFRIGERATING . . Equipment to cool liquid for air conditioning, process; data on 100 and 150-hp. models. Folder 30-B-1, 6 pages. Carrier Corp., 48-52 Geddes St., Syracuse 1, N. Y. **IEN-0707**

RESISTORS . . Type-BW insulated wire-wound resistors, ½ to 2 watts; characteristics, values. Bulletin B-5, 4 pages. International Resistance Co., 407 N. Broad, Philadelphia 8, Pa. **IEN-0708**

ROCK DRILLING . . "Boom Jumbo" pneumatic drifter, car mounted; specifications. Folder 4108, 4 pages. Ingersoll-Rand Co., 11 Broadway, Dept. NR, New York 4, N. Y. **IEN-0709**

SAWING . . Attachment for ¼ or 5/16-in. portable drill to reciprocate a blade in wood, metal; details. Pocket folder, 4 pages. Tri-Saw Corp., 6609-13 Clayton Rd., St. Louis 17, Mo. **IEN-0710**

SEALING . . "Acadiaseal" synthetic-rubber packings for air and hydraulic equipment; drawings, dimensions. Bulletin AC-522, 32 pages. Acadia Synthetics, 4113-17 Ogden, Chicago 23, Ill. **IEN-0711**

SEALING . . Gaskets of cork, synthetic rubber, compositions; properties, design suggestions. "Gasket Materials," 20 pages. Armstrong Cork Co., 1012 State St., Lancaster, Pa. **IEN-0712**

SEALING . . "Cast-Seal" impregnating equipment for castings; models, methods, uses, list prices. "Mogul Cast-Seal," 8 pages. Metallizing Co., 3518-22 W. Carroll Ave., Chicago 24, Ill. **IEN-0713**

SEALING . . Packings and gaskets in a line of materials; service recommendations, packaging. Catalog P, 100 pages. Raybestos-Manhattan Inc., Arnold & Stiegel Sts., Manheim, Pa. **IEN-0714**

SEALING . . Caps and plugs to seal openings in tubes, pipe, equipment; types, threads, list prices. "Metal Closures," 6 pages. Tubing Seal Cap, 2808-12 E. 11th, Los Angeles 23, Calif. **IEN-0715**

SEALING . . "Hexseal" rubber gasket to use with reinforced concrete pipe to 84 in.; data. "Specification 10," 4 pages. Universal Concrete Pipe, 295-99 S. High St., Columbus 15, Ohio **IEN-0716**

STEELS . . Types 17-4 PH and 17-7 PH stainless steels; analyses, fabrication. "Precipitation Hardening Stainless Steels," 16 pages. Armco Steel Corp., 701-5 Curtis St., Middletown, Ohio **IEN-0717**

STEELS . . Beams, plate, sheet, tube, also alloy and stainless steels; sizes, weights. "1950-51 Stock List," 312 pages. U. S. Steel Supply Co., 1317-21 Wabansia Ave., Chicago 90, Ill. **IEN-0718**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6234 if you write the maker

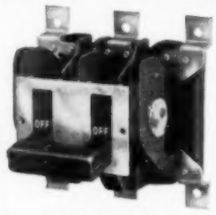
"...it's the bushing that makes the wHOLE difference"

To maintain maximum accuracy in drilling operations, use the bushing that's precision made for the job...use Acme. Write for catalog.

Acme Industrial Company
Makers of Hardened and Ground Precision Parts
215 N. LAFLIN STREET • CHICAGO 7, ILLINOIS
THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

BREVITY—Identify by IEN - 6235 if you write the maker

For Tough Jobs at Sea or Ashore



TU SWITCHES
2 and 3 Pole

• Designed to meet the stiff requirements of Navy Specification 17518 (INT), two and three pole "Diamond H" "TU" Switches have proved their rugged stamina in dozens of heavy duty applications, both marine and industrial, controlling lights, motors, resistance welders, hoists, winches, pumps, machine tools, automatic doors, and other equipment.

• Extra coils on the heavy compression spring (quick make, quick break) provide such a wide margin of strength that we've never heard of one breaking. Features include positive action mechanical kick-off, arc snuffers, heavy molded phenolic base, cadmium plating of all steel parts. Withstands extreme vibration and shock (and 2600 volt A. C. dielectric test).

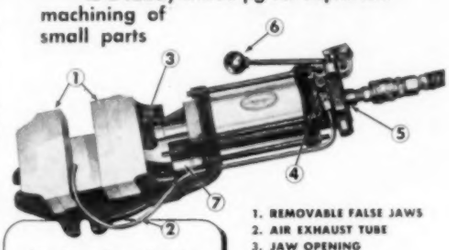
Ratings: 60 A.; 125, 250 and 500 V., A. C.; 125 and 250 V., D. C.

Write today for complete details on how these and other "Diamond H" switches and controls will meet your requirements

THE HART MANUFACTURING COMPANY
203 Bartholomew Ave., Hartford, Connecticut

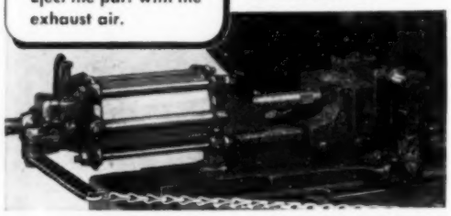
BREVITY—Identify by IEN - 6236 if you write the maker

This unique AIR-POWERED VISE is a ready-made jig for rapid fire machining of small parts



1. REMOVABLE FALSE JAWS
2. AIR EXHAUST TUBE
3. JAW OPENING ADJUSTMENT
4. PISTON ROD SPEED CONTROL
5. INTEGRAL VALVE
6. OPERATING LEVER *Adjustable to Any Angle in Any Plane*
7. ADJUSTABLE GIB

Machine the soft false jaws to fit the part.
Open and close the jaws automatically.
Eject the part with the exhaust air.



The Bellows CV40-B Air Vise is a versatile tool around the shop. Mount it on a drill press table, or milling machine bed; machine the soft false jaws to fit the part; synchronize the opening and closing of the vise jaws with the movement of the machine . . . and you'll increase production as much as 50%.

Or use it as a bench vise in light assembly work. Operate it by foot if you wish both hands of the operator free; or arrange it with two-hand safety controls. Let the exhaust air eject the part. Even the most inexperienced operator will get fast production, safely.

No extra valves to buy. Operating valve and speed controls are built-in. Requires only one air connection which can be flexible hose.

JAW WIDTH: All models 4".

JAW OPENING: All models adjustable to 2½".

Model CV40-B5: Built-in manually operated valve. Develops clamping pressure five times applied air pressure.

Model CEV40-B5: Built-in Electroaire Valve* for full electrical control. Develops clamping pressure five times applied air pressure.

Model CEV40-B10: Built-in Electroaire Valve* for full electrical control. Develops clamping pressure ten times applied air pressure.

Model CEV40-B10: Built-in Electroaire Valve* for full electrical control. Develops clamping pressure ten times applied air pressure.

Write for Bulletin 761. See how Bellows "Controlled-Air-Power" Work Holding and Clamping Devices will fit in your production. Address: Dept. IEN-651.

1264 *Trade Mark Registered Patent applied for.

The Bellows Co.
ESTABLISHED 1911
AKRON 9, OHIO

BREVITY—Identify by IEN - 6238 if you write the maker

Want to increase furnace operating efficiency . . . lower cycle time . . . cut production costs? Discuss your specific application with your local B&W Refractories Engineer.

THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
85 LIBERTY STREET, NEW YORK 6, N. Y.
WORKS: Augusta, Georgia

BREVITY—Identify by IEN - 6239 if you write the maker

ORANGEVILLE HAND TRUCKS

"Keep Loads Alive"

Illustrated are a few of the many hand trucks we make for factory and warehouse use. They are typical of a wide range of available types and sizes which we can furnish in two-wheel and four-wheel designs. We also build special trucks to order to meet unusual handling needs.

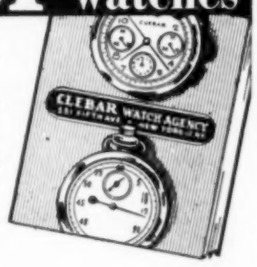
Write for Catalog 50

FLOOR TRUCKS ORANGEVILLE

ORANGEVILLE MFG. CO.
ORANGEVILLE 15, PA.
Established 1879

BREVITY—Identify by IEN - 6240 if you write the maker

STOP watches



Yours free . . .

New 1951 catalog of internationally famous Clebar stop watches. Most complete line of stop watches in America . . . for every timing purpose.

In use by the foremost industrial firms, laboratories, colleges and athletic competitions.

MAIL COUPON TODAY!

Clebar Stop Watches meet and exceed the rigid specifications of the National Bureau of Standards!

CLEBAR Watch Agency

Clebar Watch Agency
Dept. N, 551 Fifth Avenue • New York 17, N. Y.

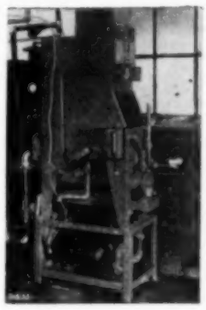
Please rush me a FREE copy of the new 1951 catalog of the internationally known Clebar Stop Watches.

Name.....
Address.....
City.....State.....

BREVITY—Identify by IEN - 6241 if you write the maker

REFRIGERATING . . Frost preventer sprays liquid on refrigerator coils

Source: NIAGARA BLOWER CO.
3117 Chrysler Bldg., New York 17, N. Y.



New Concentrator has been developed to remove moisture from the No-Frost liquids employed to prevent the formation of frost on the refrigerating coils in the company's air-cooling equipment. Assembly with the cooler permits continuous operation to provide sub-zero cold air for cold-test rooms, cold processing, food-product chilling, cold storage.

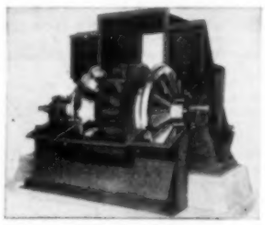
The liquid is delivered through spray heads in the housing containing the refrigerating coils. It picks up moisture that is condensed out of the air by contact with the refrigerated spray and returns the liquid and the water to the concentrator. The water is removed by evaporation through the action of a heating element and motor-driven exhaust blower. The liquid is delivered to a cooler element in the main cooling-equipment housing above the spray nozzle. Here it is condensed and returned to the nozzles for recirculation.

The Concentrator is available in a range of sizes with water-evaporating capacity from ½ to 75 gph. Cooling equipment served by the concentrator can deliver air at temperatures minus 30 deg. F. without pause for defrosting.

BREVITY—Identify by IEN - 6242 if you write the maker

VENTILATING . . Centrifugal blower equipped with air inlet control vanes

Source: WESTINGHOUSE ELECTRIC CORP.
202 Readville St., Boston 36, Mass.



Four new designs of radially-assembled control vanes are announced by the company for its line of centrifugal ventilating and air-supply blowers. The vanes, initially developed some 20 years ago, are arranged radially in the inlet and are set to swivel between open and closed positions by suitable manual or automatic operation. For each setting of the vane the incoming air is directed into a spinning action as it enters the rotor to produce given characteristics for volume, pressure and power input without changing the motor speed.

Model 6 is intended for use with light-duty blowers. Model 7 is to handle dusty gases. Model 8A is for industrial application where gases are free from solids and Model 8B is for the same services where the assembly employs shaft bearings supported on the fan housing. The vanes are made of steel welded to tubes that pivot about steel rods anchored in a cast-iron center. The outer supporting member is a rolled-steel inlet, flare stiffened to provide rigidity in all directions. The design is available to specification for given blowers.

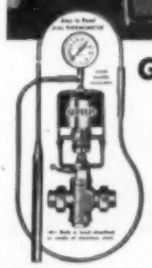
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6243 if you write the maker

BREVITY—Identify by IEN - 6244 if you write the maker

BREVITY—Identify by IEN - 6245 if you write the maker

Below: Official U. S. Navy Photograph Michelson Laboratory Naval Ordnance Test Station Inyokern, Cal.

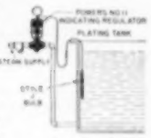


Get BETTER Control SAVE LABOR Reduce Costs with—

POWERS

No. 11 TEMPERATURE REGULATORS

Most of the more than 30 steam heated tanks used in the Navy's modern shops shown above are automatically controlled by Powers regulators.



They maintain a constant temperature, end losses caused by OVER-heating, help reduce rough plating, buffing time and decomposition of plating solutions.

Easy to Install—self-operating, have an easy to read 4" dial thermometer which shows temperature of plating solution under control. They are available with either lead sheathed or stainless steel bulbs. Bulletin 329 gives full information.

Compressed Air Operated Indicating Regulator

POWERS Series 100 Regulator

Accurately Controls heating and cooling of plating solutions

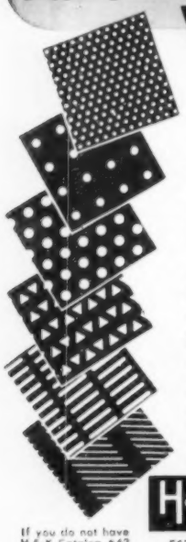
Powers has the most complete line of temperature regulators made for metal finishing operations. Contact our nearest office for further information, or

Write for Circular PLN

THE POWERS REGULATOR COMPANY
2737 Greenview Avenue, Chicago 14, Illinois (PLO)
Established 1891 • Offices Over 50 Cities • See Your Phone Book

BREVITY—Identify by IEN - 6247 if you write the maker

H & K PERFORATED MATERIALS offer you . . .



AVAILABILITY
H & K is prepared to perforate metal, plastic, fabrikoids, masonite, plywood and many other materials available in sheet, plate or coil form—in thicknesses from tissue thin to 1" steel.

PATTERNS
A wide selection of patterns are available in standard round, square, slot, oblong, triangular holes and also special holes such as indented, lipped, burred, tapered, stabbed, etc.

ACCURACY
Hole sizes can be held to a tolerance of ± .0005" when required. Holes are accurate and uniform in size, shape and spacing.

OPEN AREA
Various spacings and arrangements of our perforations provide wide range from which to select a required percentage of open area.

SURFACE
Smooth and easy to clean.

Send us your specifications for recommendations without obligation.

The Harrington & King Perforating Co.

If you do not have H & K Catalog #62 — write for it!

5637 Fillmore Street, Chicago 44, Illinois
114 Liberty Street, New York 6, N. Y.

BREVITY—Identify by IEN - 6248 if you write the maker

LOCALITES

FOR BETTER LIGHT ON THE JOB

Directs Light Exactly Where Needed as Easily as Pointing Your Finger

Designed Especially for Machine Tools, and Work on Assembly and Inspection Benches

MODEL 3470-P-172

Overall length 48¼". Three instantly adjustable joints. Circular base for machine or wood screw mounting.

$7.16 EACH in pkg. of 6
Single Units $8.95 ea.

- **Rugged Construction** to stand strains and shocks.
- **Instantly Adjustable** with full swivel ball and socket joints.
- **Infra-red Baked Enamel Finish** — Exterior, Wrinkled Gray — Reflector Interior, high temperature White.
- **Reflector** accommodates 100 watt A-21 medium screw base lamp.
- **Wired Complete** with switch socket and 8 ft. oil resistant cord.

WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION

Localites are available through selected distributors everywhere.

LOCALITE Fostoria for Light ON the Job

Reg. U. S. Pat. Off.

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AT YOUR FINGERTIPS

A must for your bench — Horberg Drill Size, Pin Gages. Unlimited time and cost saving advantages in center and location finding, hole or slot gaging.

- Held Accurate to +.0001 —.0000
- Concentric tapered to fit holes .0012 smaller than gage size.
- 1½" in length for easy insertion
- Highest quality oil hardened tool steel
- In convenient indexed stand for quick selection

Letter sets of 52 gages, A-Z in pairs
Fraction sets of 60 gages, 3/64" to 1/2" in steps of 1/64" in pairs
Number sets of 120 gages, 1 to 60 in pairs
Individual gages in stock
Extra stands available

All Items Stocked for Immediate Delivery

FROM THE Horberg GAGE COMPANY
31 STAPLES ST., BRIDGEPORT, CONN.

Quantity
..... Letter Sets @ $45.
..... Fraction Sets @ $50.
..... Number Sets @ $90.
..... Single gages @ $ 1.
..... Stand alone @ $10.

Please Rush checked items and literature to
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Address .....
Name .....
Title .....

NEW LITERATURE—Continued

"Subjects match the product index"

STORING . . Sectional racks for storing bar stock, pipe, shafts; data on floor and wall models, list prices. Bulletin 26, 4 pages. Brown Engineering Co., 130 N. 3rd St., Reading, Pa. IEN-0719

STORING . . Wire basket on a chain to store clothing overhead; operation, suggested layout. Folder, "Lockerbasket," 6 pages. Moore Co., 422-A Professional Bldg., Charleston 1, W. Va. IEN-0720

STRAIGHTENING . . Cross-roll rotary machine for pipe and tube, ⅜ to 15 in.; description. Catalog 7205, 4 pages. Mackintosh-Hemphill, 899-903 Bingham, Pittsburgh 3, Pa. IEN-0721

STRAINERS . . Self-cleaning strainers for 4 to 36-in. pipe; features, capacity tables. "Brassert Automatic," 8 pages. S. P. Kinney Engineers Inc., 203 Second Ave., Carnegie, Pa. IEN-0722

SWITCHES . . Snap-action units; types, operating characteristics and electrical specifications. Bulletin M-2-D, 4 pages. Penn Electric Switch Co., 13th & Monroe Sts., Goshen, Ind. IEN-0723

SWITCHES . . "Tyniswitch" miniature snap-action switch; diagram, operation, models, ratings. Bulletin, "Tyniswitch," 4 pages. Sessions Clock Co., 50 Horton St., Forestville, Conn. IEN-0724

TAPES . . "Scotch" pressure-sensitive tapes, listed by eight Federal specifications. Pocket booklet No. 1, 8 pages. Minnesota Mining & Mfg. Co., 902 Fauquier St., St. Paul 6, Minn. IEN-0725

TESTING . . Baldwin-Sanborn amplifier-recorder for SR-4 strain gages; characteristics. Bulletin 352, 2 pages. Baldwin-Lima-Hamilton Corp., Paschall P. O., Philadelphia 42, Pa. IEN-0726

TESTING . . "Megger" portable electrical resistance testers; models, ranges, application suggestions. Bulletin 21-85-19, 8 pages. James G. Biddle Co., 1314-18 Arch St., Philadelphia 7, Pa. IEN-0727

TESTING . . Type 1-118 electronic amplifier for dynamic work such as strain gages; specifications. Bulletin CEC-1522, 4 pages. Consolidated Eng'g, 618-22 N. Lake, Pasadena 4, Calif. IEN-0728

TESTING . . Condensed review of new equipment for laboratory use. Folder, "Thirty-Seven New Developments," 6 pages. Fisher Scientific Co., 715-19 Forbes St., Pittsburgh 19, Pa. IEN-0729

TESTING . . Regulated power supplies for electronic equipment; ratings on 9 models, instruments. "Power Supplies," 4 pages. Furst Electronics, 10-14 S. Jefferson St., Chicago 6, Ill. IEN-0730

TESTING . . "Ernst" portable direct-reading hardness tester for flat or curved surfaces; operation. Bulletin ET-84, 4 pages. Newage Intl., 255 E. 42nd, 2nd Flr., New York 17, N. Y. IEN-0731

TESTING . . "Super-L" hydraulic machines for tension, compression, 50 to 200 ton. Bulletin 40, 8 pages. Tinius Olsen Testing Machine Co., 1104 Easton Rd., Willow Grove, Pa. IEN-0732

THERMOMETERS . . Recording type for temperature, humidity, running time; models, ratings. Catalog 400, 16 pages. Gotham Instrument, 149 Wooster, 4th Flr., New York 12, N. Y. IEN-0733

TIMING . . Electronic time interval meter, .000,01 to 1 sec. range; basic design, applications. "Model 510," 4 pages. Berkeley Scientific Co., Nevin & Sixth, Richmond, Calif. IEN-0734

TRAPS . . For air compressors and associated equipment; diagram on use, application suggestions. Bulletin 5, 8 pages. Sarco Co., 2825 Empire State Bldg., New York 1, N. Y. IEN-0735

TRUCKS . . Type FT-60 fork lift truck, 6,000 lb.; general specifications, turn diagram. Bulletin 1325, 8 pages. Baker Industrial Trucks, 1248-52 W. 80th St., Cleveland 2, Ohio IEN-0736

TRUCKS . . Two and four-wheel hand trucks, dollies, wheels, barrel skids; sizes, dimensions, ratings. Catalog 51, 12 pages. Modern Equipment, 2609-13 Cuming, Omaha 2, Nebr. IEN-0737

TRUCKS . . Motor-vehicle trucks with special ambulance or utility bodies; specifications. Individual data sheets, 2 pages each. Shop of Siebert, 628 Southard Ave., Toledo 2, Ohio IEN-0738

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6250 if you write the maker

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

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MANUFACTURERS OF SELF-STICKING PRODUCTS
WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED "VERSATAPE" · MARKS & STENCILS

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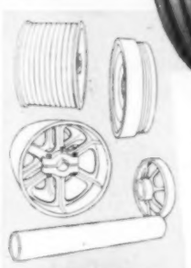
PYOTT

for SPECIAL SIZE ROUND CASTINGS

MADE FROM STOCK PATTERNS 2" TO 144" SIZE RANGE



Pulleys, Flywheels, Sheaves, Gear Blanks, Capstans, Rolls, Drums, Etc.

Just send Pyott a rough sketch of the special size casting you want, including dimensions. Pyott foundry skill and stock patterns will insure quality and save you time and money. Write now, for the PYOTT SPECIAL SIZE CASTINGS FOLDER.

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326 NORTH SANGAMON STREET • CHICAGO 7, ILLINOIS

Flat Belt Pulleys . . . V-Belt Sheaves . . . Quee-Dee Flat Belt Pulleys . . . V-Belts . . . Gears . . . Couplings . . . Sprockets . . . Flywheels

BREVITY—Identify by IEN - 6252 if you write the maker

"Never leave that till tomorrow which you can do today." —*Ben Franklin's Almanac, 1757*

If waste and inefficiency ruin thee and thy country today, how shall thee profit by finding a horseshoe tomorrow?

—*Acme Steel Notebook, 1951*

The Acme Steel wire stitching and steel strapping equipment you have today means efficient and thrifty production in your packaging, shipping and materials handling operations. Protect it well.

In spite of an increase in productive capacity, U.S. military requirements on some products make it impossible for Acme Steel to meet all the requirements of our more than 50,000 customers. To make the best use of Acme Steel box stitching wire, flat strapping and other products available to you, let our representative put Acme Steel's experience and ingenuity to work for you.

In the past 71 years, we have helped our customers weather many a difficult period. We are ready and willing now to help you keep your tools on the job or develop new setups that will increase efficiency in your operations and minimize waste.

Information for ready reference on Acme Steel products is available upon request.

ACME STEEL COMPANY
Dept. IEN-61, 2838 Archer Avenue, Chicago 8, Illinois
We have 41 service offices in the United States and Canada. If not listed in your telephone directory, write us.

ACME STEEL

In 1950 Acme Steel had 9135 stockholders—a growth of 21.1% over 1949. They comprised 3223 men, 3089 women, 2260 joint accounts, 563 trusts, corporations and institutions, 646, or 15.9%, of our employees are stockholders.

Five things you can do to keep your Acme stitching machines on the job!

1. Clean and oil every day.
2. Never operate stitcher without material in stitching position.
3. For perfect stitching, check work regularly. If in doubt about any operating difficulty, refer to service manual (additional copies sent upon request) or submit stitched material, identified by machine type and serial number, to Customer Service Department, Acme Steel Company.
4. From time to time moving parts need replacement—keep a supply on hand to make quick, minor replacements.
5. Ask us about the Acme Steel "3-WAY SERVICE PLAN" for equipment repairs.

ACME STEELSTRAP flat steel strapping and ACME UNIT-LOAD carload bracing BAND, SEALS and TOOLS • ACME SILVERSTITCHERS and ACME SILVERSTITCH WIRE for box stitching • ACME-MORRISON METAL STITCHERS and BOOK STITCHERS • ACME-CHAMPION BAG STITCHERS • ACME HOT AND COLD ROLLED STRIP STEEL • ACME GALVA-BOND steel slat stock for Venetian blinds • ACME STEEL SPECIALTIES, including hoops, corrugated fasteners, barbed box straps, nail-on strapping and other container reinforcements • ACME STEEL ACCESSORIES—snips, tool mounts, reel stands, coil holders, coil trays.

BREVITY—Identify by IEN - 6254 if you write the maker

Performance Proved

THRIFTMASTER

Gear Driven Eccentric Type

ADJUSTABLE DRILLHEADS

- Rugged FULL BALL BEARING Construction—hardened parts used throughout.
- 31 STANDARD MODELS—to fit a wide variety of specifications.
- DRILLING CAPACITIES—from #60 to 1½" in Steel—rated to drill disintegration.
- FULLY ADJUSTABLE—from 1" min. to 14.2" max.—2 to 4 Spindles.
- For Drilling, Reaming, Tapping and other machining operations.
- Prompt Delivery on Standard Heads.

Full Line of Standard Universal Adjustable and Special Fixed Center Drillheads . . . Automatic Reverse Tap or Drill Units. Write for the Thriftmaster Catalog.

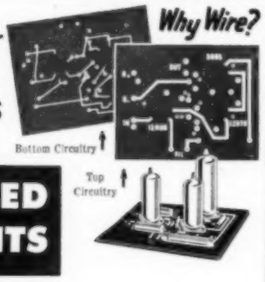
Subsidiary of Thomson Industries, Inc.

THRIFTMASTER PRODUCTS CORPORATION
1040 N. Plum St., Lancaster, Pa.
also Makers of
DORMAN AUTOMATIC REVERSE TAPPERS
4 Sizes • Friction & Positive Drives • Capacity (2-56 to 2" in Steel

BREVITY—Identify by IEN - 6255 if you write the maker

CUT WIRING COSTS with PRINTED CIRCUITS

Why Wire?



Appreciable reductions in wiring and assembly costs, circuit reproducibility and miniaturization are a few of the advantages of "Photocircuit-Printed Circuits."

Etched foil circuit patterns of copper, aluminum, silver and brass on a variety of rigid and flexible plastic bases are used in electronic and allied equipment.

Applications extend to radiant heaters and complex wiping contact switches. Greatly improved miniaturization and ruggedness are insured.

Let our engineering facilities and experience help you solve your design and application problems.

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BREVITY—Identify by IEN - 6256 if you write the maker

1919 **CURTIS** 1951
Exclusively a Manufacturer of

UNIVERSAL JOINTS

- Curtis standards exceed the Class I specifications established for the Army, Navy and Air Force
- 3 types available from stock
  Ball type for light duty Standard for heavy duty
  Lo-Friction for special duty
- Single or double • Solid-centered or bored
- **SPECIAL INQUIRY INVITED** — for special applications or for other than stock sizes write us in detail.

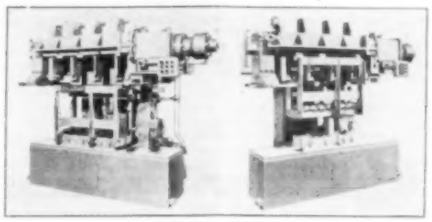
CURTIS UNIVERSAL JOINT CO., INC.
7 BIRNIE AVENUE, SPRINGFIELD, MASS.

Write for free engineering data and price list

BREVITY—Identify by IEN - 6257 if you write the maker

PRESS . . Hydraulic machine assembles bushings in engine blocks

Source: OILGEAR CO.
1567-A W. Pierce St., Milwaukee 4, Wis.



Hydraulic ram at the top of this new hydraulic press carries a series of arms on which an operator loads split bushings and their keepers. The ram is a double assembly that can be rotated to position either three or four bushings.

A hydraulic elevator operates upward from the base of the machine to register a roller conveyor so engine blocks can be rolled or taken away. The blocks ride inverted to present the bored openings for the bushings. These openings are brought into alignment for pressure installation by raising the elevator.

Movements are interlocked so a cylinder block will actuate the elevator when it is in correct position and so the elevator will actuate the assembling ram when the elevator has reached the top of its travel. Pressure for the assembling operation actuates a valve to reverse the action. The movement, on reaching its retracting limit, causes the elevator to move downward to unload the finished work and take a new cylinder block. Pressure is supplied by the company's Type DX-411 two-way variable-delivery pump direct connected to a 3-hp. 1,200 rpm. motor. The machine weighs 13,800 pounds.

BREVITY—Identify by IEN - 6258 if you write the maker

TRUCK . . Power lift fork design rates 1 ton, electric hydraulic lift

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

The operator rides in seated position on this new light capacity Lift King battery-powered truck. He operates controls on the steering-wheel column for travel in forward and reverse, for load raising and lowering and for tilt to the front or rear. Travel acceleration is by foot control. A foot-operated brake stops movement in either direction. The travel motor is protected by a new magnetic contactor. A non-plugging device prevents reversal of power in any but the first speed. A motor-driven hydraulic pump provides pressure for lifting and tilting movement.

Wheel base measures about 41 in. with overall height in lowered position at 83 inches. Lift height is to 69 in. above the floor. Overall length to the face of the fork is 64 inches. Weight with a battery is about 4,940 pounds. Speed is 6½ mph.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6259 if you write the maker

KETT TOOLS *Pay off . . .*

THE KETT POWER SAW ...A FIST-FULL OF CUTTING POWER

In the tool kit of every contractor, builder, or maintenance man . . . in every metal-working shop, the Kett Power Saw is a time and labor-saving necessity. Light-weight but rugged and powerful, the Kett tool zips with amazing ease and speed through most any kind of sheet material . . . mild steel up to 10 gauge, aluminum to 3/16", plastics and other soft material up to ¼" thick.

Immediate Delivery. Write to Dept. A-6, for full details and descriptive literature.

The KETT TOOL COMPANY
5 EAST THIRD STREET CINCINNATI 2, OHIO

BREVITY—Identify by IEN - 6260 if you write the maker

"Gravy ON YOUR HAIR?"

Just because gravy goes swell over noodles, he shouldn't assume it's good on hair, too!

And just because one bearing is best lubricated by one particular grade of oil, you shouldn't assume that the same oil is best for *all* bearings on that machine. In many cases it isn't.

OIL CUPS permit you to lubricate each bearing with the oil best suited to that bearing—thus prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production. And oil cups fortunately *cost very little.*

Gits oil cups have been the standard for industry for more than 40 years. Gits Bros. has the largest selection of oil cups available anywhere. Call on Gits Bros. for a prompt, efficient solution to your lubrication problems.

Write for free Price Guide Catalog

GITS BROS. MFG. CO.
1854 S. Kilbourn Ave. • Chicago 23, Ill.

BREVITY—Identify by IEN - 6261 if you write the maker

WIRE MESH

Maybe it all *does* look pretty much the same at first glance. But when a firm has been making wire mesh for 70 years man and boy, there's bound to be a little more to it than meets the eye — a little more know-how in engineering and weaving, a little more quality in the product, a little more service and satisfaction for the user.

JELLIFF WIRE MESH is woven in all ductile metals
JELLIFF WIRE MESH is woven in all commercial weaves
JELLIFF WIRE MESH is woven in widths up to 72 inches
JELLIFF WIRE MESH is economical. Every foot runs true to the specifications.

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JELLIFF WIRE MESH is a quality product and has been for 70 years. You can depend on it.

Write today for full details about JELLIFF WIRE MESH, JELLIFF WIRE MESH PRODUCTS, and JELLIFF'S CONSULTATION SERVICE on wire-mesh engineering. Address Department 12.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS, LEKTROMESH RESISTANCE WIRE, WIRE MESH PARTS, WIRE CLOTH, STRAINERS • FILTERS
SOUTHPORT CONNECTICUT

BREVITY—Identify by IEN - 6262 if you write the maker

TEMPILSTIKS®

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:
- Select the Tempilstik® for your working temperature.
- Mark your workpiece with it.
- The Tempilstik® will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

FREE—Tempil® "Basic Guide to Ferrous Metallurgy" —16½" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

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COMPANY _____
ADDRESS _____

BREVITY—Identify by IEN - 6263 if you write the maker

Give Gummed-up Paint the Brush-off!
with
CABOT'S BRUSH CLEANER

Good brushes are valuable and hard to get. Keep them in top condition. Non-inflammable, fast-working Cabot's Brush Cleaner knocks out hardened paint right down to the heel. Safe for bristles and settings . . . won't evaporate . . . comes ready to use . . . economical because it can be used over and over again!

FREE SAMPLE and complete information . . . write today to

Samuel Cabot, Inc.
633 Oliver Building Boston 9, Massachusetts

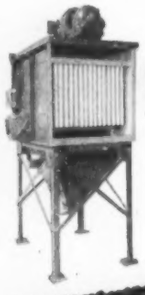
BREVITY—Identify by IEN - 6264 if you write the maker

Here's how Pangborn
Solves these Problems
with this modern equipment

BLAST CLEANING!

Blast Cleaning Cabinet quickly and easily cleans metal parts of rust, grime, dirt, paint, etc. Produces a clean, smooth surface on pieces up to 60" x 36". Models available from $315.00 and up.

Blast Cleaning Machine not only removes rust, dirt, scale, etc., but is ideal for maintenance and many other uses. Cleans large objects such as bridges, structural work, tanks before painting. Six sizes, portable or stationary, from $170.00 and up.



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Unit Dust Collector stops dust at its source, minimizes machine wear and tear, reduces housekeeping and general maintenance costs. Solves many grinding and polishing nuisances. Reduces material losses. Models from $286.00 and up.

PRECISION FINISHING!

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Pangborn

MAIL COUPON for full details

(Check for more information)
- Blast Cleaning Cabinets
- Blast Cleaning Machines
- Unit Dust Collectors
- Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Gentlemen: Please send me more information on the equipment I've checked at the left.

Name .....
Company .....
Address .....
City ..... Zone ..... State .....

NEW LITERATURE—Concluded

"Send us your new literature for review"

TRUCKS . . "Liftruk" fork lift truck, 5 to 10 ton in three sizes; specifications, uses. Bulletin 77, 6 pages. Silent Hoist & Crane Co., 813-75 63rd St., Brooklyn 20, N. Y. **IEN-0739**

TRUCKS . . Power lift truck, ½ to 1½ ton; details on four models, notes on drive, accessories. Bulletin 11, 8 pages. Transitier Truck Co., 2475-79 N. W. 23rd Ave., Portland 10, Ore. **IEN-0740**

TRUCKS . . Hand and power trucks, attachments; data also on scales, hoists. "Materials Handling Equipment," 48 pages. Yale & Towne Mfg. Co., 11002 Roosevelt Blvd., Philadelphia 15, Pa. **IEN-0741**

TRUCK ATTACHMENTS . . Illustrated units for power lift trucks. "Special Engineering Folder," 4 pages. Towmotor Corp., 1224-28 E. 152nd St., Cleveland 10, Ohio **IEN-0742**

TUBES . . Stainless "Croloy" seamless and welded tubes; condensed technical data on 10 steels. Bulletin TB-19, 4 pages. Babcock & Wilcox, 4027-31 Fourth Ave., Beaver Falls, Pa. **IEN-0743**

VALVES . . Brass and iron line valves for 300 to 2,500-lb. service; condensed catalog information. "Valve Selection Guide," 8 pages. Crane Co., 834-38 S. Michigan Ave., Chicago 5, Ill. **IEN-0744**

VALVES . . Bronze and iron line valves and cocks for pressures to 500 lb.; sizes, list prices. Price List, 8 pages. Jarecki Valve Div., H. K. Porter Co., Drawer 2650-A, Tulsa, Oklahoma **IEN-0745**

VALVES . . Power-operated Nordstrom lubricated-plug valves; sizes, ratings, diagrams, uses. Bulletin V-214, 44 pages. Rockwell Mfg. Co., 402 N. Lexington Ave., Pittsburgh 8, Pa. **IEN-0746**

VALVES . . Quick-acting plug valve, 1 to 16 in.; notes on plug operation, specifications to 600 lb. Catalog 600, 12 pages. Wedge-plug Valve Co., 1302 S. Broad Ave., New Orleans 15, La. **IEN-0747**

VENTILATING . . Blower-equipped roof ventilator; capacity chart, 10 to 62-in. throat. "Centrifugal Ventilators," 4 pages. Arex Co., 4317-19 Ravenswood Ave., Chicago 13, Ill. **IEN-0748**

VENTILATING . . Roof ventilators, gravity and forced flow; drawings, dimensions, capacity tables. Bulletin SPV-101-D, 12 pages. Burt Mfg. Co., 929-33 S. High St., Akron 11, Ohio **IEN-0749**

VIBRATING . . Foundry-type pneumatic vibrators; models, sizes, list prices, valves, fittings. Pocket Folder F-351, 8 pages. Cleveland Vibrator, 2736 Clinton, Cleveland 13, Ohio **IEN-0750**

WATER TREATING . . Electric unit to minimize scale in water lines; description, sizes. Bulletin 100, 4 pages. Aqua Electric Scale Control, 2026-30 E. 22nd St., Cleveland 15, Ohio **IEN-0751**

WATER TREATING . . Hydrogen-zeolite softener equipment; process, reactions, operation. Bulletin 4530, 16 pages. Cochrane Corp., 3132 N. 17th St., Philadelphia 32, Pa. **IEN-0752**

WATER TREATING . . Organic materials for boiler water to minimize scale formation, adherence; theory. "Organics," 4 pages. E. F. Drew, 15 E. 26th, Rm. 2015-A, New York 10, N. Y. **IEN-0753**

WATER TREATING . . Equipment for filtering, softening, deionizing; condensed review. Bulletin, "Exion," 12 pages. Paddock Eng. Co., 8402 Santa Monica, Los Angeles 46, Calif. **IEN-0754**

WELDING . . Condensed catalog data on alloys and fluxes for welding, brazing, soldering. "Buyers Guide," 4 pages. All-State Welding Alloys, 271-5 Ferris Ave., White Plains, N. Y. **IEN-0755**

WELDING . . Transformer-type ac. arc machines; data on 200 to 500-amp. models, "Dial-lectric" control. Bulletin W-79-2, 2 pages. Harnischfeger Corp., 4402 W. National, Milwaukee 14, Wis. **IEN-0756**

WELDING . . Electrodes for stainless steel; analyses, application data, questions and answers. "Welding of Stainless Steels," 48 pages. McKay Co., 310 McKay Bldg., Pittsburgh 22, Pa. **IEN-0757**

WIRE ROPE FITTINGS . . Hoist hooks, thimbles, clips, sockets, chain links, shackles; sizes, list prices. Catalog 150, 44 pages. Thomas Laughlin Co., 141-5 Fore St., Portland 6, Me. **IEN-0758**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

BREVITY—Identify by IEN - 6266 if you write the maker

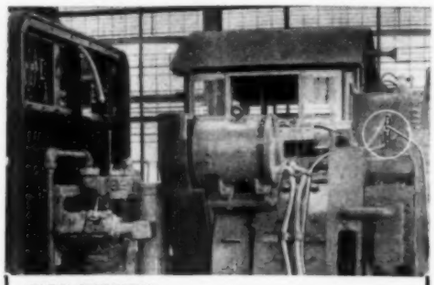
you name it! we'll form it from Plastic Sheet

Production Facilities for
ONE—ONE DOZEN—ONE MILLION
Neat—Clean—Durable

Illustrated three-dimensional plastic pieces are formed from flat sheet material. They resemble molded pieces but do not require the usual large initial expenditure for molds. Formed parts may be multi-color printed or hot stamped, and of laminated construction, in accordance with customer's specifications. Send blueprints, drawings or samples (indicating quantities under consideration) and quotation will be made promptly.

ALLEGHENY PLASTICS, INC.
391 Chestnut Road Sewickley, Pa.

BREVITY—Identify by IEN - 6267 if you write the maker



SILENT! VALVES AT WORK!

Constantly on Duty to Maintain Constant Pressure on this Diesel engine built by

BALDWIN-LIMA-HAMILTON CORPORATION
(LIMA WORKS) LIMA, OHIO

DIL-RELIEF BY-PASS VALVES

FULFLO

CHATTERLESS . . . easily installed . . . no further attention required. Pipe sizes: ½" to 2" standard pipe thread and STD 300 lb. American flange valves 1" to 2½".

Write on your letterhead for THE FULFLO MECHANICAL DATA BOOK

FULFLO Specialties Co., Inc.
BLANCHESTER, OHIO

BREVITY—Identify by IEN - 6268 if you write the maker

New
POCKET SIZE
Volt-Ohm-Mil-Ammeter
MODEL
666R
U. S. Dealer Net
With Self-contained Resistance Ranges to 3 Megohms

NOTE THESE SPECIAL FEATURES

Resistance Ranges—0-3000 Ohms to 3 Megohms, self-contained.

Enclosed Selector Switch—molded construction. Keeps dirt out.

Unit Construction—Resistors, shunts, rectifier, batteries, are housed in molded base integral with switch. Direct connections without cabling. No shorts.

Resistors—Precision film or wire-wound types, each in its own compartment.

Batteries easily replaced—Positive grip coil spring, permanent contact.

Streamlined Styling—Handsomely designed, pocket-size case. Only two controls, both flush with panel.

RANGES:

D.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms/Volt.

A.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms/Volt.

D.C. MILLIAMPERES: 0-10-100, at 250 Millivolts.

D.C. AMPERES: 0-1 at 250 Millivolts.

OHMS: 0-3000-300,000 (20-2000 at center scale)

MEGOHMS: 0-3 (20,000 Ohms center scale)

See your Radio Parts Distributor or write

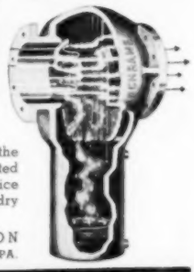
TRIPLETT ELECTRICAL INSTRUMENT COMPANY
Bluffton, Ohio, U. S. A.

Precision first to Last
TRIPLETT

BREVITY—Identify by IEN - 6269 if you write the maker

Separating Oil from Exhaust Steam

COCHRANE ALL-SERVICE
SEPARATOR



Where exhaust steam is used for heating and deaerating feed water, the oil usually present in the exhaust may be practically eliminated by installing a Cochrane All-Service Separator on the inlet pipe. Clean dry steam is assured.

COCHRANE CORPORATION
3152 N. 17th St., PHILADELPHIA 32, PA.

COCHRANE
STEAM SPECIALTIES
SEPARATORS • DRAINERS • RELIEF VALVES • PURIFIERS • DISCHARGERS

BREVITY—Identify by IEN - 6270 if you write the maker

Know the scope of the MARSH line of pressure gauges

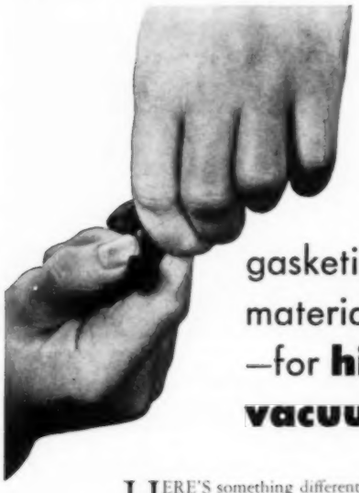
There are literally thousands of combinations of types, ranges, case styles and connections in the broad Marsh line of pressure, vacuum and compound gauges. As a result, gauge requirements that would be "special" to others are often standard to Marsh.

This means that we can meet your gauge needs better and more economically . . . whatever the service condition, quantity or design requirement. To know the scope of Marsh Instruments just ask for the new fact-filled catalog.

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept.: 155 E. 44th St., New York 17, N. Y.

BREVITY—Identify by IEN - 6271 if you write the maker

MYVASEAL*



gasketing material —for **high vacuum**

HERE'S something different—a synthetic elastomer that's tough and has a very low vapor pressure.

In the ports of electron tube exhaust machines, Myvaseal Gasketing Material results in longer-lasting tubes because its remarkably low vapor pressure means higher vacuum with less pumping.

The newest television picture-tube pumping systems and rotary exhaust systems are being built with it. Older equipment can benefit from it. And users of other high vacuum systems, small and very large, are turning to Myvaseal Gasketing Material.

This new product is just another example of DPi's research in the interests of those who work with high vacuum.

Whatever your need in that field, let our technical staff serve you. Write to *Distillation Products Industries,* Vacuum Equipment Department, 761 Ridge Road West, Rochester 3, N.Y. (Division of Eastman Kodak Co.).

*Trade-mark

DPi

high vacuum research and engineering

Also . . . vitamins A and E . . . distilled monoglycerides . . . more than 3400 Eastman Organic Chemicals for science and industry

BREVITY—Identify by IEN - 6273 if you write the maker

PRESS . . Self contained hydraulic rates 20 ton, has 12 in. stroke

Source: ROSS & CO.
1403 E. 57th St., Chicago 37, Ill.

Motor-driven pump in the base of this new machine supplies pressure through a control valve to the double-acting vertical cylinder for ram speed at 60 ipm. downward, 90 ipm. upward. Control centers at a foot-operated switch. Pressure in the line is 1,250 pounds.

Throat dimension measures 8 inches. Clearance under the retracted ram is 16 inches. Required floor space measures 28 by 34 inches.

BREVITY—Identify by IEN - 6274 if you write the maker

CONNECTOR . . Screw type clamp secures to cable for tap-off conductor

Source: O. Z. ELECTRICAL MFG. CO.
260-64 Bond St., Brooklyn 2, N. Y.

Cast copper forms the two housing parts of this new clamp. The design permits swiveling for quick application while retaining the clamp in assembled position. Serrations prevent the cable from working loose. Two hexagon-head screws tighten the clamp in place. A spacer is available to separate individual conductors. Sizes range from No. 2 to 1,000 mcm. in the main line and from No. 10 to 1,000 mcm. on the tap line.

BREVITY—Identify by IEN - 6275 if you write the maker

GAGE . . Dial indicator, .060 in. range, .0001 in. graduations

Source: CHICAGO DIAL INDICATOR CO.
178-82 N. Wacker Drive, Dept. E, Chicago 6, Ill.

No. 145F is a new Geneva dial indicator with readings to plus and minus 0.005 in. in 0.0001-in. divisions. Overall range is 0.060 in. in six revolutions. The dial measures 2 in. in diameter and the housing is ½ in. from front to back. The face is covered with a plastic crystal. The case and plunger housing are machined from one piece of brass. List price of the new unit is $25.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6276 if you write the maker

TACK WITH AIR

use **DUO-FAST** AIR TACKERS

TRIGGER-FAST
30 Staples in 10 Seconds

Save time and money on your tacking applications with these speedy air-driven tackers.

Operate on 85 pounds air pressure. Easy to use—flick the trigger and—zip—the tight-holding staple is driven right where you want it.

You can do more tacking work with fewer workmen using Duo-Fast Air Tackers. And girl operators can be used.

30 models including one to save time and money in your plant.

Write today for complete details on Duo-Fast Air Tackers—also information on hand operated Duo-Fast Hammer and Gun Tackers.

CHAIR COVERING TACKING

TELEVISION WIRE TACKING

FASTENER CORPORATION
862 FLETCHER STREET • CHICAGO 14, ILLINOIS

BREVITY—Identify by IEN - 6277 if you write the maker

CLEAN, UNIFORM, ADAPTABLE process-air heating

with G-E Calrod* heaters

Drying, baking, curing, ripening, or many other air-heating processes can be easily accomplished with G-E Calrod heaters—with forced or natural convection.

It's easy, for example, to install fin-Calrod heaters in ducts (see Fig. 1) to heat air in ventilating systems, ripening or drying rooms.

Ovens for baking, drying, dehydrating, etc. are easily and accurately heated with G-E Calrod tubular or strip heaters (see Fig. 2).

To learn more about how to apply G-E Calrod heaters to process air, write for bulletin GEA-5096. And for the **FREE CATALOG,** GEC-1005A, on the complete line of Calrod heaters—*Sect. 720-18, General Electric Company, Schenectady 5, N. Y.*

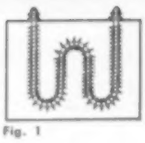


Fig. 1

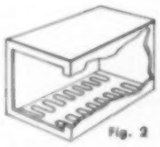


Fig. 2

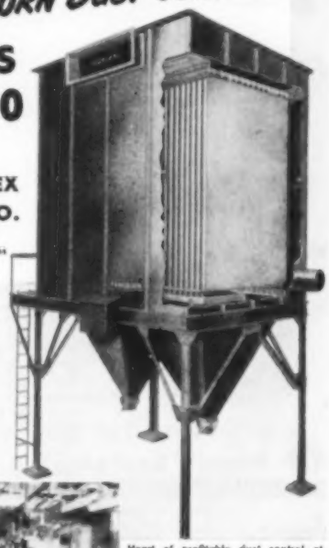
*Reg. U.S. Pat. Off.

GENERAL ELECTRIC

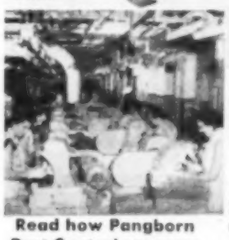
BREVITY—Identify by IEN - 6278 if you write the maker

In One Year PANGBORN DUST CONTROL SAVES $15,000 for MIDDLESEX SILVER CO.

(division of R. Wallace & Sons Company)



SHOWN BELOW is the buffing and polishing operation at Middlesex. Note the hood and piping system which conveys dust-laden air to the Collectors mounted outside.



Heart of profitable dust control at Middlesex Silver is a Pangborn CJ Collector like this. **SHOWN ABOVE** in a cutaway view are the filters which make the CJ ideal for heavy loading applications like this.

Read how Pangborn Dust Control recovers valuable silver from plant dust!

TALK about profit! Every year Pangborn Dust Control at Middlesex Silver earns a profit of $15,000 after *all operating expenses* are paid! Centrifugal collectors are used to trap coarse dust particles . . . and *high efficiency is assured* because valuable silver fines are recovered by the big Pangborn CJ cloth screen Collector. Result to Middlesex: Pangborn Dust Control has more than paid for itself since installed!

Pangborn has a complete line of Dust Collectors, each designed for a specific job. No matter if the dust in your plant is *valuable, hazardous, or just a nuisance* . . . chances are Pangborn Dust Control will *save you money*. Find out . . . there's no obligation. For full information, write today for Bulletin 909A to PANGBORN CORPORATION, 2309 Pangborn Boulevard, Hagerstown, Maryland.

Look to Pangborn for the Latest Developments in Dust Control and Blast Cleaning Equipment.

Pangborn DUST CONTROL
STOPS THE DUST HOG from stealing profits

BREVITY—Identify by IEN - 6280 if you write the maker

TO INCREASE PRODUCTION SPACE AND STORAGE AREA, TURN TO BATTERY OPERATED WALKIE TYPE TRUCKS

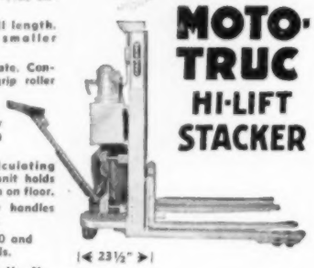
Compare!

BET you choose a MOTO-TRUC HI-LIFT STACKER

A comparative test will prove these Moto-Truc advantages:

- Shortest overall length. Operates in smaller spaces.
- Easiest to operate. Controls in easy grip roller type handle.
- Unusual stability, due to four point mounting under load.
- Patented articulating hinged spring unit holds drive wheel down on floor.
- Powerful motor handles loads with ease.

Capacity: 3,000 and 4,000 pounds.



Write for Bulletin No. 81

The MOTO-TRUC Co.
1953 E. 59th Street
CLEVELAND 3, OHIO.
Originators and world's largest exclusive manufacturers of motorized, battery operated walkie type trucks

HI-LIFT TRUCKS, PLATFORM TRUCKS, PALLET TRUCKS

BREVITY—Identify by IEN - 6281 if you write the maker

CUSTOM DESIGNED for tubing and light piping

PRECISION BUILT for accurate, effortless control

HANNA *Unitite Jr.* **1/4" VALVES**

For tubing or piping . . . for small air or hydraulic cylinder control . . . for pilot control of larger valves, and for many other uses, Hanna ¼" Valves are perfectly suited.

They are packless, permanently tight and designed with the skill and precision that distinguish all Hanna products. A feature of these Unitite Jrs. is the handy control lever which requires only 80° movement to effect a complete reversal. Essentially 4-way valves, they operate equally as well as 3-way valves—simply by plugging any one port.

Three mounting styles—standard mount, column mount, and manifold mount, are available to meet your requirements. All operate with pressures up to 500 p.s.i., for air, oil or water.

For complete information on Hanna Valves send for Catalog 254

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT · CYLINDERS · VALVES · REGULATORS
1748 Elston Avenue, Chicago 22, Illinois

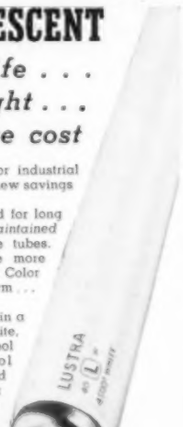
BREVITY—Identify by IEN - 6282 if you write the maker

LUSTRA FLUORESCENT LAMPS *longer life . . . better light . . . lower maintenance cost*

WHETHER for general, commercial or industrial lighting, you'll get new efficiency and new savings with Lustra Fluorescent Lamps.

Lustra Fluorescents are unsurpassed for long life, high light output, and high *maintained* brightness throughout the life of the tubes. And Lustra's superior coatings give more evenly-diffused light from end to end. Color characteristics are dependably uniform . . . replacements always identical.

Lustra Fluorescent Lamps are made in a full color range . . . soft white, warm white, deluxe warm white . . . 3500° white, cool white, deluxe cool white, daylight. Send for the full Lustra story now. Lustra Corporation, Dept. P-6 36 Washington St., Brooklyn 1, New York.

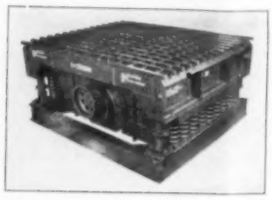


Lustra
AMERICA'S DATED LAMPS
DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

BREVITY—Identify by IEN - 6283 if you write the maker

FOUNDRIES . . Core shakeout table concentrates vibration vertically

Source: SIMPLICITY ENGINEERING CO.
1951 Ralph St., Durand, Mich.



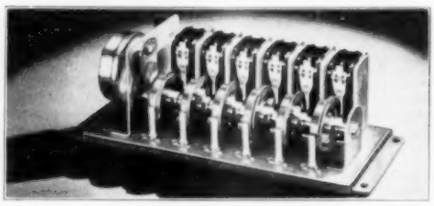
New machine is specifically designed to shake out cores from complete castings in which the castings range from 4 to 15 ton in weight. It is not intended to shake out sand from molds. A 4-ton casting can be cleaned in 30 to 45 seconds. The largest casting takes 2 to 3 minutes. The deck is mounted on springs on two sides of the base and vertical vibrating action is provided by a motor-driven mechanism centrally mounted under the deck. There is no horizontal movement.

The machine minimizes transmission of vibration beyond its base and so can be set up on a relatively light foundation. It requires a 25-hp. motor. Overall dimensions are 8 by 10 by 5 feet. Stabilized action is provided by four piston-type snubbers at the corners of the machine.

BREVITY—Identify by IEN - 6284 if you write the maker

TIMING . . Multiple circuit assembly, motor driven for automatic sequencing

Source: INDUSTRIAL TIMER CORP.
117 Edison Place, Newark 5, N. J.



Adjustable cams are mounted on a motor-driven shaft in line with an assembly of snap-acting switches in this new recycling timer. Each cam is independently adjustable for "on-off" intervals. The overall range can be varied by substituting gears in the transmission. It is minimum at one revolution in 72 hours, maximum at one in 40 sec. in nine models. Contact rating, also subject to specification, is sufficient to operate a normal control circuit of standard design.

BREVITY—Identify by IEN - 6285 if you write the maker

TECHNICAL WRITING . . Good advice in book on how to write for publication

Harper & Brothers
51 E. 33rd St., New York 16, N. Y.

"Writing to Sell" titles new 214-page book, list price $2.75, on how to write for magazines. It tells you about the business facts, how to plan a story, the writing facts, how and where to sell a completed story. Although slanted toward the popular field, you will find much that applies to technical writing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6286 if you write the maker

Line-O-Power

STRAIGHT LINE DRIVES

High quality, compact design incorporating Duti-Rated high hardness precision gears assembled in streamlined housings of rugged cast iron.

Accurate high production machine tools assure low original cost. Simplified construction, direct splash lubrication, quality workmanship assure long wear life. Efficiencies of 96% or higher.

Double and triple reduction—capacities 1 to 200 h.p., ratios 5 to 1 up to 238 to 1.

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 S. Western Ave.
Chicago 9, Illinois

WRITE for BULLETIN LPB

FOOTE BROS.
Better Power Transmission Through Better Gears

BREVITY—Identify by IEN - 6287 if you write the maker

if your design calls for a hydraulic circuit

if you want efficient, dependable performance

specify GEROTOR hydraulic PUMPS

Exclusive GEROTOR elements revolve in the same direction at low relative speed, resulting in less wear, longer life. Continuous fluid-tight tooth engagement means less slippage, more uniform flow. Pressures up to 1000 p.s.i., continuous duty; in some sizes, up to 1200 p.s.i. continuous, 1500 intermittent. Plain, base or flange mounting. Write for catalog.

GEROTOR hydraulic pumps & motors
GEROTOR MAY CORPORATION, Baltimore 3, Maryland

BREVITY—Identify by IEN - 6288 if you write the maker

A STEADY 102° BELOW FREEZING

(Photo from Refrigerating Engineering)

CALLED FOR CONTINUOUSLY VARIABLE SPEEDS AND STABLE OUTPUT TORQUE

OILGEAR *Fluid Power*

SOLVED THIS PROBLEM

The wide range of installations that demonstrate the reliability, scope and ease of control of Oilgear Fluid Power Drives and Transmissions grows daily. A case history from REFRIGERATING ENGINEERING, official journal of the American Society of Refrigerating Engineers, telling how a research laboratory chose Oilgear Transmissions and obtained continuous, dependable performance without delay, is another chapter in that story.

Demands for tests of materials at extreme temperatures called for equipment able to hold testing room temperatures stable at all times—usually at 70° F. below zero. It also had to refrigerate test materials as rapidly as possible. This meant a system of varying compressor speeds automatically—so as to compensate for variations in heat load.

Previous experience had shown that . . . the use of direct current motors, or variable speed drives of the belt-and-pulley type, under automatic control, was not entirely reliable and required considerable servicing.

Then Oilgear Fluid Power Transmissions were adopted. These transmissions provide continuously and automatically variable output speed and maximum output torque at all operating speeds. Nearly two years' experience reveals that temperatures have been maintained within ±½° F. of the desired figure over long periods of time, that no attendant is required except for a few minutes' daily routine inspection, that the Oilgear drives are completely reliable.

Thus the evidence grows that if you are tired of machine or process drives and transmissions that don't stand up, if you want simpler, better, more productive and dependable drives, if you have problems not yet solved, it will pay you to contact Oilgear Fluid Power engineers. THE OILGEAR COMPANY, 1567 W. Pierce St., Milwaukee 4, Wisconsin.

Oilgear Fluid Power
PUMPS, MOTORS, TRANSMISSIONS, CYLINDERS AND VALVES

BREVITY—Identify by IEN - 6290 if you write the maker

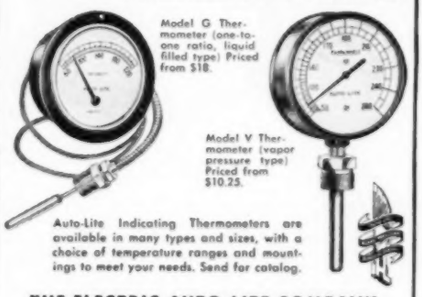
DARNELL CASTERS

SPEED PRODUCTION

DARNELL CORP. LTD.
LONG BEACH 4, CALIFORNIA
60 WALKER ST., NEW YORK 13, N. Y.
36 N. CLINTON, CHICAGO 6, ILL.

BREVITY—Identify by IEN - 6291 if you write the maker

Depend on AUTO-LITE
FOR TEMPERATURE INDICATION



Model G Thermometer (one-to-one ratio, liquid filled type) Priced from $18.

Model V Thermometer (vapor pressure type) Priced from $10.25.

Auto-Lite Indicating Thermometers are available in many types and sizes, with a choice of temperature ranges and mountings to meet your needs. Send for catalog.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION • TOLEDO 1, OHIO
NEW YORK CHICAGO SARNIA, ONTARIO

AUTO-LITE
INDICATING & RECORDING THERMOMETERS

BREVITY—Identify by IEN - 6292 if you write the maker

Want to know more about GAS ANALYSIS?

READ THIS NEW 8-PAGE ENGELHARD BULLETIN

Look at these typical data-packed pages

YOU WILL FIND a wealth of material on a wide range of gas analysis problems and their solutions in the new Engelhard 8-page illustrated bulletin. It explains how Engelhard equipment provides complete, sensitive, accurate analyses by the proven thermal conductivity method. The bulletin also contains a *valuable thermal conductivity table* that you will want to keep for handy reference. *Write for your free copy today. Ask for Bulletin 800A.*

Please send me FREE copy of Bulletin 800-A on Gas Analysis.
Name .....
Company .....
Address .....
City ..... State X1234

CHARLES ENGELHARD, INC.
850 PASSAIC AVENUE, EAST NEWARK, N. J.

BREVITY—Identify by IEN - 6293 if you write the maker

HEAT TREATING . . Electric furnace, electronic control, 300 to 2,200 deg. F.

Source: H. K. HUPPERT CO.
6856 Cottage Grove Ave., Chicago 37, Ill.

Work space measures 8 by 9 by 6 in. in this new No. 880 combination hardening and tempering furnace. The assembly employs coiled alloy-wire elements that are no subject to scaling or flaking at high temperature. Contacts are enclosed. The company's Infitrol and an electronic controller provide automatic regulation to a predetermined temperature. The furnace calls for maximum current consumption at 4 kw. It is wired for 220-volt single-phase ac. Models are available for both bench and floor installation as required by conditions.

BREVITY—Identify by IEN - 6294 if you write the maker

FLOORS . . Rubber mat supplied in 20½ ft. by 35-in. rolls

Source: AMERICAN MAT CORP.
1711 Adams St., Toledo 2, Ohio.

Do-All is a new general purpose rubber mat that is supplied in rolls measuring 20½ ft. in length by 35 in. in width. The mat is molded in 35 by 35-in. units that can be cut into 17-in. squares, each presenting a beveled edge. Four colors are red, green, blue and mottled.

BREVITY—Identify by IEN - 6295 if you write the maker

HANDLING . . Insulated container, collapsible when empty for return flat

Source: CAN-PRO CORP.
20 Goodrich St., Fond du Lac, Wis.

List price is $23.50 and overall dimensions are 24 by 19 by 18 in. for this new insulated container. It has been designed to handle products that must be kept cold for a period of time in storage and in shipping operations. The insulation is a fibrous blanket in a quilted waterproof canvas housing on a base of insulated plywood.

A steel side band and steel studs provide reinforcement and absorb impact. Handles are provided at the two ends. The cover is overlapping design with adjustable straps. The container stands open until it is collapsed. It weighs 15 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6296 if you write the maker

THIS MACHINE MOUNTING

• absorbs vibration, shocks!
• reduces machine maintenance!
• saves installation costs!

ISOMODE* PADS save you money on machine installation—make the job easier, faster, better. No other base required. Most times, you need no drilling for floor bolts. Loaded at 50 pounds per square inch, they've the resiliency to cushion any size machine and control its vibration.

Isomode Pads protect floors, cut down noise, end excessive machine deterioration, guard precision of work. Satisfied users are proving these benefits in thousands of installations. One, low-cost, 18" x 18" pad is enough for *15,000 pounds of machine!* Easily cut to size. Resists oil, water, aging. Write for bulletin 405. *Reg. U.S. Pat. Off.

THE MB MANUFACTURING COMPANY, INC.
1064 State St., New Haven 11, Conn.

BREVITY—Identify by IEN - 6297 if you write the maker

DENISON HydrOILic PUMPING UNITS

For Circuit Pressures to 5000 psi

For highest efficiency on any hydraulic circuit need, pick one of the 37 different models of HydrOILic Pumping Units. These rugged, space-saving units feature HydrOILic Axial-Piston Pumps—proved in repeated tests to be exceptionally high in volumetric efficiency at operating pressures up to 5000 psi. Pumps are hydraulically balanced throughout. Designed with fewer parts, they assure longer service with less maintenance. Write for full details.

37 different types and sizes ● Operating pressures from 400 to 5000 psi ● Constant or variable volume types ● Volume control by handwheel, stem or pressure compensation ● Volume deliveries from 2 to 35 gpm ● Efficient axial piston pumps ● Reservoir capacities from 16 to 165 gallons ● Single-panel mounting of motor, pump, relief valve, gauges and controls ● Compact design simplifies circuit arrangement ● The large series pumping units meet J. I. C. standards.

DENISON HydrOILics
The DENISON Engineering Co.
1150 Dublin Rd., Columbus 16, Ohio

BREVITY—Identify by IEN - 6298 if you write the maker

A FASTER Finer Eye

to study action too fast for your own eyes

The new Kodak Cine Ektar Lens, 63mm. *f*/2.0, now available on the Kodak High Speed Camera, requires less light to record superb pictures at rates of 1000 to 3000 per second. That's a factor of utmost importance in hard-to-light locations.

With nearly twice the light-gathering capacity previously available, the astounding over-all image quality of this new lens supplements the "slowing down" of time that results during projection at the standard 16 frames per second. Result: revelation for leisurely study of unsuspected vital details about products and processes that move too fast for your eye to follow.

The booklet "Magnifying Time" tells the complete story of seeing the unseeable. Send for it today. Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak High Speed Camera

Kodak

BREVITY—Identify by IEN - 6300 if you write the maker

A modern Bruning BW machine will print up to 105 square feet per minute

The Bruning Model 93 BW machine makes prints up to 46 inches wide at speeds up to 30 feet a minute. Prints are fully developed, regardless of speed. They come out flat, dry, odorless, and ready for immediate use.

With such speed, it is possible to break bottlenecks in black-and-white prints, and still have capacity for reports, records, correspondence and other paperwork. Copies can be made in seconds and for pennies – and color coded in any of twenty different color combinations.

Bruning BW machines emit no fumes, hence need no exhaust ducts. No specially trained operator is required; *anyone* can easily operate a Bruning BW machine.

Write today for free booklet A-1053A.

BRUNING

Specialists in copying since 1897

Charles Bruning Company, Inc., Dept. H-61, 100 Reade St., N.Y. 13, N.Y.

BREVITY—Identify by IEN - 6301 if you write the maker

When the Heat's On and the Pressure is Great—

the new Cycl-Flex by EAGLE furnishes the "Brainwork"!

Three EAGLE Flush-Mounted CYCL-FLEX TIMERS with "Oil-Proof Dial" control the sequence of operations on the new 300-ounce Plastic Injection Molding Press built by the Watson-Stillman Company.

there's an Eagle Timer to control your Industrial Processes!

Write for Eagle Bulletin 120!

EAGLE SIGNAL CORPORATION Moline, Illinois

BREVITY—Identify by IEN - 6302 if you write the maker

PORTELVATOR®
(THE HANDY HAMILTON PORTABLE ELEVATING TABLE)
LIFTS — LOWERS — LEVELS
TRANSPORTS

Eliminates "ganging-up" on heavy lifts. Reduces occurrence of industrial accidents. Eliminates the need for extra hands, extra trips.

STANDARD MODEL CAPACITIES TO 5000 POUNDS

SAFETY of OPERATION is inherent in the **PORTELVATOR** mechanical lift principle, which transmits power through worm, worm gear, and screw.

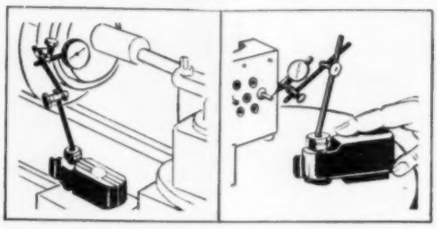
TAKE TIME TO LEARN THE DIFFERENCE
WRITE FOR BULLETIN P-508

THE *Hamilton* TOOL COMPANY
905 HANOVER STREET • HAMILTON • OHIO • U • S • A

BREVITY—Identify by IEN - 6303 if you write the maker

MAGNET . . Base and column assembly to position gage at a machine or bench

Source: ENCO MFG. CO.
4520-26 W. Fullerton Ave., Chicago 39, Ill.



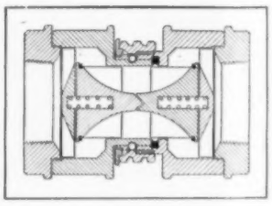
Plastic base for this new No. 150 gage holder measures 4 by 1¼ by 1⅝ in. and is equipped with two parallel steel ribs measuring 2¼ by ¼ by ¼ inch. The ribs provide the magnetic contact surface for holding purposes. Also on the bottom is a magnetic release operated by a lever.

An upright post, 4 in. in length, mounts on the base at a ball-and-socket connection. An adapter rides on the post to provide the adjustable gage support. List price is $15.50.

BREVITY—Identify by IEN - 6304 if you write the maker

HOSE FITTING . . Quick acting coupler with a double internal shut off valve

Source: ROBB MFG. CO.
1307 Washington Blvd., Pittsburgh 6, Pa.



New 3-in. size has been added to the company's Quick-Seal couplers for use in hose lines and detachable pipe lines to seal both ends of the disconnected lines as soon as the coupling connection is opened. The double design is similar in principle to the single assembly, previously described IEN-2172-51. It presents a contoured passage equal or larger in area than the line in which it assembles.

Overall length of the 3-in. unit, with female pipe threaded end connections, is 13¼ inches. Diameter across the points of the hexagon is 4¾ inches. Weight is about 20 lb. in steel. List price is $60. The design permits swiveling and will interchange with other couplers of the same size in the line.

BREVITY—Identify by IEN - 6305 if you write the maker

HANDLING . . Book of examples to describe methods of material handling

Prentice-Hall Inc.
70 Fifth Ave., New York 11, N. Y.

How to move materials is subject of new 264-page book, "Modern Methods of Materials Handling", list price $5.50. It is written by the Material Handling Institute Inc., employs a number of specific illustrated examples grouped under headings such as metal products, building material, food, aircraft.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6306 if you write the maker

ask for
DANLY
precision
DOWEL PINS

Drive easier because tapered leading ends "pilot" Danly Dowel Pins into close fitting holes . . . resist upsetting because they're specially hardened (58 to 60 Rockwell C) . . . meet almost every requirement with two complete size ranges, one standard and one ground .001 oversize for enlarged holes.

Send for this free bulletin for helpful application data and catalog information.

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois

PRECISION DIE SETS . . . DIEMAKERS' SUPPLIES

BREVITY—Identify by IEN - 6307 if you write the maker

The **"MASTER"** *Line*
OF MATERIALS HANDLING EQUIPMENT
The Most Complete Line of Materials Handling Equipment on Wheels

Buy the type of machine that fits your job.

Write TODAY for one or more of these new catalogs . . .

(24) Master JackLift Electric Trucks and JackStacker Electric Trucks.
(25) SpaceMaster Electric Fork Trucks.
(26) Master JackLift Trucks, Hydraulic and Mechanical Handlift Trucks, WeldMaster Skid Platforms.
(27) SpaceMaster Gas Fork Trucks.
(28) PowerMaster Stackers, Lifters, Handy Hoisters, Portable Cranes.
(29) FloorMaster Trucks.
(30) ToteMaster Gas Trucks.
(31) LoadMaster Racks for Pallet, Platform, Barrel, Drum, Bin, Unit Loads.

The **"MASTER"** *Line*

LEWIS-SHEPARD PRODUCTS INC.
142 Walnut Street, Watertown 72, Massachusetts
Midwest Plant: Crawfordsville, Ind.
Sales & Service in Principal Cities

BREVITY—Identify by IEN - 6308 if you write the maker

Looking for an oil seal that runs cool?

More and more designers of quality machine tools are protecting their equipment against overheated oil seals by using Johns-Manville Clipper Seals.

These precision-moulded seals assure cool, trouble-free operation plus long service life because their tough, dense heel provides the rigidity needed for an accurate press fit in the cavity . . . while the concentrically moulded flexible inner lip maintains *light*, but *positive* contact with the shaft through a specially designed garter spring.

This provides effective sealing under all conditions, with a minimum of friction.

The solution to *your* sealing problem may be the all-around efficiency of Clipper Seals. They are made in split and endless types, for shafts from ¼" to 66" in diameter, in a variety of lip designs for all types of bearing surfaces; for temperatures to 450F and shaft speeds to 3500 rpm. For complete data write for Brochure PK-46A. Address Johns-Manville, Box 290, New York 16, N. Y.

JM Johns-Manville CLIPPER SEALS

BREVITY—Identify by IEN - 6309 if you write the maker

Gives ONE MAN the strength of FIVE!

GO-GETTER
Pallet Type POWER LIFTRUCK

This walk-along electric truck is compact, powerful . . . gives one man the strength of five. Go-Getter lifts full four inches in only four seconds, drops loads gently and quietly. It rides smoothly on uneven surfaces. Braking is safe and easy. This power-operated liftruck is strong, maneuverable, stable . . . has 200° turning arc and low center of gravity. Comes in 2-ton and 3-ton models. Send coupon today for Bulletin.

BULLETIN

REVOLVATOR CO.
DESIGNERS AND MANUFACTURERS OF MATERIAL HANDLING EQUIPMENT
8759 TONNELE AVE., NORTH BERGEN, N. J. • SINCE 1904

Without obligation, please send bulletin on Go-Getter Pallet Type Power Liftrucks.

Name.....
Position.....
Company.....
Address.....

BREVITY—Identify by IEN - 6310 if you write the maker

CONDUROCK
Explosion-Safe
SPARK - PROOF FLOORS
DISSIPATE STATIC ELECTRICITY

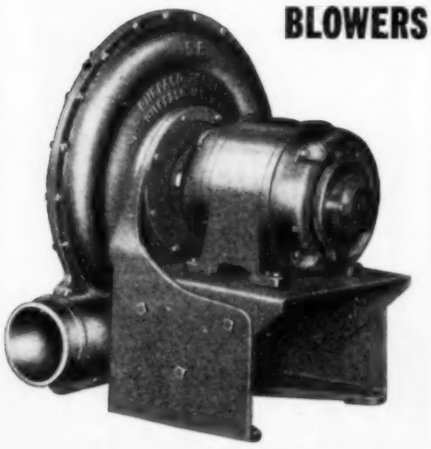
Condurock is a factory-prepared heavy-duty, spark-proof, conductive floor resurfacer that can be easily applied over concrete, brick, wood, metal or composition floors. Installations during the last war proved it to be an effective preventive against explosions caused by static electricity in laboratories and plants where black powder, igniter composition, tracer mixtures, mercury fulminate, lead azide, tetrol and other like materials are handled or processed.

Resurface your floors and other areas with Condurock now. It will dissipate static electricity and substantially remove explosion hazards. Write for complete details at once. Immediate shipments.

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

BREVITY—Identify by IEN - 6311 if you write the maker

FURNACE DRAFT - GAS LINE BOOSTING - CLEANING - DRYING
done at LOW COST with "Buffalo" "E" BLOWERS



CAPACITIES TO 5500 CFM —PRESSURES TO 2 LBS.

For your air jobs requiring constant air pressures over a wide range of capacities, these heavy-duty cast iron blowers-exhausters are ideal. In 12 sizes (starting with 30 cfm capacity), they offer you a complete selection. A number of these units offer installation and operation savings over one large blower. Write for Bulletin 3014-D for all data.

"Buffalo" FIRST FOR FANS
BUFFALO FORGE COMPANY
496 BROADWAY BUFFALO, NEW YORK
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Branch Offices in All Principal Cities

VENTILATING	INDUCED DRAFT	HEATING
AIR WASHING	FORCED DRAFT	EXHAUSTING
AIR TEMPERING	COOLING	PRESSURE BLOWING

BREVITY—Identify by IEN - 6313 if you write the maker

PROTECTING . . Welding helmet lens for operators requiring bifocal glasses

Source: WILLSON PRODUCTS INC.
111 Thorn St., Reading, Pa.

Weld-Aid designates new magnifying lens for applications between the filter and cover glasses in the vision opening of a welding helmet. The new lens is available in two sizes measuring 2 by 4⅛ in. and 2 by 4¼ inches. It is made in five powers ranging from 0.75 to 1.75 X.

The lens is positioned in the helmet so it replaces the bifocal segment in the operator's glasses and the opening is located so normal vision through the bifocal segment of the glasses is obstructed. Application in the helmet relieves eye strain and corrects blurred vision.

BREVITY—Identify by IEN - 6314 if you write the maker

CUTTING . . Slitter and rewinder for fabrics, foils, paper, plastics

Source: BAGLEY & SEWALL
500 Fifth Ave., 21st Floor, New York 18, N. Y.

Please note our error

One motor, not two as we reported in IEN-4619-51, is employed in the drive for the company's new slitting and rewinding machine. We quote from the original release to correct any possible misunderstanding. "The machine is powered by a Louis Allis eddy-current variable-speed drive. A variable-volume pump driven by an ac. motor supplies power to the rewind shafts, and the winder is powered by the eddy clutch." The machine applies on fabrics, foils, paper.

BREVITY—Identify by IEN - 6315 if you write the maker

ELEVATOR . . Portable hand operated, rates ¼ ton load, has 7 ft. lift

Source: BARRETT-CRAVENS CO.
4635 S. Western Blvd., Chicago 9, Ill.

Lift height has been increased from the standard 5 ft. to a new maximum of 7 ft. in this new ¼-ton portable hand-lift elevator. The new unit represents addition rather than replacement for the standard design. Raising and lowering is by operating a hand crank at the rear. The load is carried on a platform measuring 24 by 24 inches. The elevator is caster mounted and equipped with a push handle. It measures 8 ft. in overall height and weighs 305 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6316 if you write the maker

BARCO
High Pressure SWIVEL JOINTS

Flexibility for HYDRAULIC PIPING, TUBING!

- **AIRPLANE TYPE** — First developed for use on large planes; now widely applicable to industrial hydraulics.
- **FOR BETTER ENGINEERING!** Put flexibility where you want it—without the nuisance of sagging, flapping non-rigid lines. No expansion under pressure. 360° swivel action, with or without side flexibility. No binding. Functions perfectly at extremely low temperatures.
- **SMALL, LIGHT, COMPACT** — Many styles and sizes, ⅛" up. Pressure ratings to 3,000 p.s.i., or higher under certain conditions.
- **PRESSURE SAFE** — The seal will not break or blow-out suddenly. High temperature and fire resistance.
- **ENGINEERING RECOMMENDATIONS** — Backed by years of experience. Ask for information.

Nationwide Sales and Service.

BARCO MANUFACTURING CO.
1838 C Winnemac Ave., Chicago 40, Illinois
In Canada: The Holden Co., Ltd.

BREVITY—Identify by IEN - 6317 if you write the maker

AIR FORCE routs the enemy!

Don't let Dirt, Dust, and Grit shorten the life of your machinery and equipment. Blast the destroyers out of every crack and crevice with a CLEMENTS-CADILLAC blower-suction cleaning tool. Good maintenance pays!

Eligible for DO-97 Rating. See NPA Regulation #4.

SAVE TIME · MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE. CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

BREVITY—Identify by IEN - 6318 if you write the maker

60 TIMES FASTER
. . . for reproducing drawings, specifications, reports!

PERFECT FOR ENGINEERS

Ozalid is a *speedy copying process* that reproduces anything drawn, typed or written.* No redrawing necessary for design changes, alterations or additions—simply make changes on an Ozalid "intermediate" copy. This is used to make desired number of Ozalid prints you need.

FREE! For complete information send for booklet, OZALID, Dept. H-109 Johnson City, N. Y. Or call your local Ozalid distributor listed in your classified telephone book.

**If light won't shine through, an inexpensive intermediary step is taken.*

Cut Copying Costs . . . Use OZALID

Johnson City, New York.
Ozalid in Canada—Hughes Owens Co. Ltd., Montreal
A Division of General Aniline & Film Corporation.
"From Research to Reality".

BREVITY—Identify by IEN - 6319 if you write the maker

BREVITY—Identify by IEN - 6320 if you write the maker

NEW BOOKLET OFFERS TIPS ON TESTING... write for FREE copy

G.E.'s new "Buyer's Guide to Test Instruments" helps you select the right instruments for different electrical testing and maintenance jobs. For instance, the "Guide" tells you what instruments to use to:

- prevent motor burnouts
- improve power factor
- locate grounded coils
- predict motor rotation
- balance loads
- record voltages
- check power losses
- improve efficiency, etc.

G-E portable testing instruments are sturdy, accurate, easy to use. For complete data on how they can help you, send for your copy of the "Buyer's Guide" today. Write Section 602-180, General Electric Company, Schenectady 5, N. Y.

GENERAL ELECTRIC

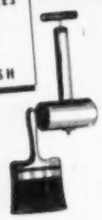
602-180

BREVITY—Identify by IEN - 6321 if you write the maker

FIGHT THEM WITH DOUBLE-ACTION PERMAX!

FLIES
MOSQUITOES
MOTHS
FLEAS
CARPET BEETLES
BEDBUGS
ROACHES
ANTS
SILVER FISH

CONTAINS 5% DDT



SPRAY Permax into the air (one cupful to every 8,000 cubic feet). Direct killing action approaches 100%. Permax contains a special solvent which prevents DDT crystallization, plus a rust inhibitor to protect sprayers and containers.

BRUSH Permax on walls, in corners, along moldings for long-lasting residual effect. One gallon easily covers 950 square feet.

Let your DOLGE SERVICE MAN demonstrate, or write for literature

PERMAX

dependable **DOLGE**

WESTPORT, CONNECTICUT

BREVITY—Identify by IEN - 6322 if you write the maker

Forget Metal Shortages!

SWITCH TO **PLASTIC DIALS**

precision-fabricated by SILLCOCKS-MILLER

Don't let metal shortages slow up production. Sillcocks-Miller engineers have the practical answer for you in dials of all types fabricated from plastic.

No matter what your dial requirements may be, it will pay you to consult Sillcocks-Miller. Their experience, facilities and precision techniques will help you solve present metal shortage problems.

Write for samples and quotations.

The SILLCOCKS-MILLER Company

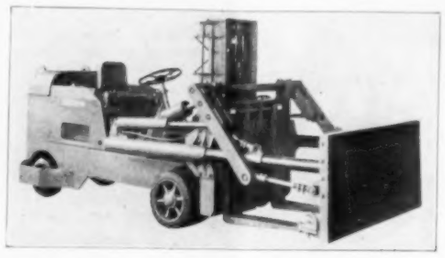
Pioneers in Plastic Fabrication since 1910

27 W. Parker Ave., Maplewood N. J.

BREVITY—Identify by IEN - 6323 if you write the maker

TRUCK . . Push-pull attachment to assist in handling heavy press tools

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio

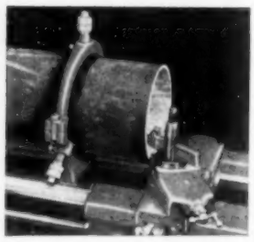


New assembly of the company's previously developed push-pull unloader applies on its Model LT-72 fork truck which has a load-handling capacity of 8,900 lb. at 25-in. load center and a lift height of 72 inches. The cylinder-mounted plate is equipped with hooks and is power operated in both directions so it can pull a heavy die assembly from a rack or a press bed onto the forks for movement to a new location or it can push the die from the forks into place for storage or operation. Horizontal movement is standard at 49 inches.

BREVITY—Identify by IEN - 6324 if you write the maker

LATHE TOOLS . . Steadyrest for work from 4¾ to 10¾ inches

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.



New steadyrest has been designed for the company's 16 and 16-24 in. lathes to assist in machining work such as pipe, pressure cylinders and other large diameter pieces that are not excessively heavy. The adjustable jaws in the new unit are moved in or out by turning knurled knobs in independent arrangement. Each is locked by a thumb screw. The top portion of the housing is hinged to place and remove work. The brass jaws ride in precision steel sleeves pressed into the housing.

BREVITY—Identify by IEN - 6325 if you write the maker

LAYOUT . . Book on plant layout describes application to new and existing plants

John Wiley & Sons Inc.
440 Fourth Ave., New York 16, N. Y.

Four principal sections in new book, "Plant Layout", by Mallick and Gaudreau, describes the approach, planning processing department, designing service facilities, justifying the layout. The book has 404 pages, lists at $7.50, includes a final chapter on how to present the proposal to management.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6326 if you write the maker

NOW—UNIVERSAL JOINTS of BOSTON Gear QUALITY

ALL PARTS INTERCHANGEABLE

Bearing Pins (C & D) hardened and precision ground.

Center Bearing Block (E) hardened and precision ground. Holes intersect accurately.

Self-Locking Assembly Ring (F) snap locks into recesses in small bearing pins and center bearing block.

Self-Closing, Ball Valve Oiler (G) provides oil reservoir for safe, sure lubrication.

Yokes (A & B) of heat treated alloy steel with bearing surfaces precision ground and O. D. ground to +.000, —.001.

Boston Gear Universal Joints Are Stocked by 80 Authorized Distributors — One Near You.

For complete information on stock sizes, HP ratings and breaking loads, see Boston Gear Catalog No. 53. Free copy mailed on request.

BOSTON GEAR WORKS
63 HAYWARD ST., QUINCY 71, MASS.

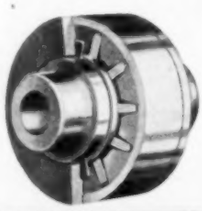
BREVITY—Identify by IEN - 6327 if you write the maker

KUSHION-TORK
WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that cause wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings, and productive machinery. No other coupling is like the Kanti-Lever: It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end-play up to four inches is possible without and thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick-stopping or reversing machinery.

Send for Bulletin No. 28-N.

Kanti-Lever Couplings



4,000,000 h. p. in Use

MFGRS. OF SECTIONAL STOCK RACKS

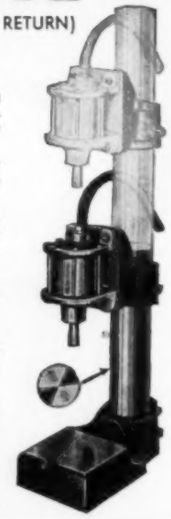
BROWN ENGINEERING CO.
122 NORTH 3RD ST. READING, PENNA.

BREVITY—Identify by IEN - 6328 if you write the maker

AIR-MITE AIR ARBOR PRESSES

(AIR OR SPRING RETURN)

Completely Flexible



AIR-MITE now supplies solid steel upright columns in any lengths required to give you these important flexibility features:

1. Normal ram clearance of 0" to 6" may be increased to any clearance required for special application.
2. Supplementary or replacement cylinders with any ram stroke required are available for quick, easy mounting on same brackets.
3. Rapid socket wrench adjustment cylinder bracket swivels for perfect alignment with work.

Presses are available in ¼, ½, ¾ and 1 ton capacities—for staking, riveting, marking, punching and similar operations.

Write for complete catalog of Air-Arbor Presses and single and double acting Air Cylinders.

AIR-MITE
2653-M West Lake, Chicago 12, Ill.

BREVITY—Identify by IEN - 6329 if you write the maker

"PAID FOR ITSELF ON ONE JOB!"

Foredom FLEXIBLE SHAFT MACHINES

have many time-saving applications but users often find a Foredom REPAYS IT'S COST on ONE JOB through eliminating an expensive disassembly and re-set job on such tasks as removing high spots on gears and touching up tools or cutters in a production set-up. The secret's in Foredom's extra small handpieces which handle like a pencil and penetrate into spots inaccessible for other tools.

***Indispensable for* "SMALL WORK" GRINDING AND FINISHING JOBS**

Foredoms are profitable additions to ALL 3 departments—Production, Tooling and Maintenance. 5 HANDPIECE TYPES (all instantly interchangeable) produce versatility to a marked degree.

SPOT THEM LIBERALLY ABOUT THE PLANT for emergency and every-day use. Their cost is negligible. Prices start at $17.75.

Quality Tested Since 1922

SEE YOUR INDUSTRIAL SUPPLY DISTRIBUTOR. IF HE CANNOT SUPPLY YOU WRITE TO US. MAIL COUPON FOR CATALOG.

FOREDOM ELECTRIC CO., Dept. N-4141
27 Park Place, New York 7, N. Y.
Send your catalog No. N4141, showing different uses of Foredom Flexible Shaft Machines.
Name _____
Address _____
City & Zone _____ State _____

BREVITY—Identify by IEN - 6330 if you write the maker

HEADQUARTERS FOR

APRONS

FLAME · WATER & DAMP · ACID

RESISTANT

BASCO APRONS are strong and long wearing. Correctly designed and cut for comfort and complete satisfaction. They are available in cotton, rubber and plastic. DON'T BUY APRONS UNTIL YOU GET OUR PRICES AND SAMPLES.

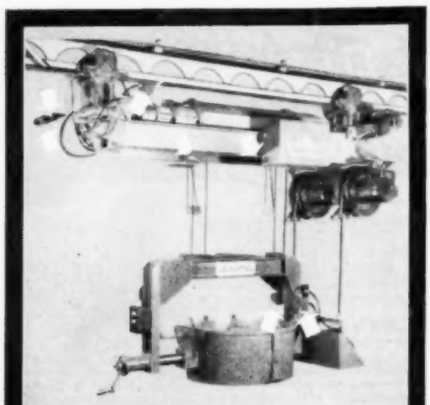
Write today for this handy Buyers Guide. It is profusely illustrated to show protective sleeves, gloves, aprons, bags and other industrial items. We also make special canvas items of every description.

ASSOCIATED BAG & APRON CO.

2650 West Belden Ave. • Chicago 47, Illinois

Phone: Albany 2-7121

BREVITY—Identify by IEN - 6331 if you write the maker



Overhead Carrier with Automatic Chip Handler

THEY PICKED

SNAP-LOCK

TRADE MARK

FOR PERFORMANCE

On Critical Control Functions of Cleveland Tramrail Material Handling Equipment

Fast, accurate action—heavy-duty service—dependable, trouble-free operation—that's the kind of performance Cleveland Tramrail Division of The Cleveland Crane & Engineering Co. demands of limit switches to control the automatic operation of its overhead material handling equipment.

Snap-Lock meets all these requirements—and more. Available in a variety of types and sizes to suit every industrial application, each has the same famous exclusive Namco features: SNAP make and break, pure silver self-wiping contacts, positive on or off locking (can't stop on dead center), separate sealed electrical and mechanical sides, hardened steel moving parts. No other limit switches can offer you equal safety and dependability under extreme service conditions.

The complete range of standard Snap-Lock Limit Switches is illustrated and tabulated in Bulletin EM-50. Ask for your copy.

ELECTRICAL MANUFACTURING DIVISION

178 East 131st Street • Cleveland 8, Ohio

NATIONAL ACME

CLEVELAND, OHIO

BREVITY—Identify by IEN - 6333 if you write the maker

TIMING . . Master clock for time keeping and interval control

Source: CINCINNATI TIME RECORDER CO.
1731-35 Central Ave., Cincinnati 14, Ohio

Master-Pro Series-250 is a new combination of master-time and program-control equipment to operate time clocks, recorders, stamps, job clocks through one 24-volt dc. circuit and to independently control six individual 24-volt ac. circuits for intervals minimum at one minute. Operation is on 110-volt, 60-cycle ac. A companion unit, known as Series-260, is available for timekeeping only with the single 24-volt dc. circuit. Both units measure 8¾ by 9 by 18 inches. Both units also weigh 40 pounds.

The master-time section produces 24-volt dc. impulses derived through a transformer and rectifier to step up the connected clocks, recorders, stamps at exact minute intervals. A special circuit automatically resets, when necessary, each connected unit to the correct time each hour. The program-control section is mechanically synchronized with the time section to actuate the six individual circuits on intervals of one minute or more at desired starting times. These circuits can be employed to operate night signals, office-starting and stopping signals, to turn equipment such as a compressor on and off, to actuate heating controls and signal equipment to sound at given times during the day or night. The 24-volt ac. employed in these circuits is handled through contacts providing "hold" intervals adjustable from 3 to 10 seconds. A calendar device makes any circuit inoperative during any 12-hr. period or combination of periods.

The master unit is set up by inserting pins and rollers through chain links on a drum located in the housing opening to the left of the clock. These positions can be selected as required on the minimum minute intervals. Positioning rollers on the pin across the face of the drum determines the circuit that it will control. Resetting any circuit does not affect any other. A lock is provided on the housing to prevent tampering. Drive is by a Telechron synchronous motor.

BREVITY—Identify by IEN - 6334 if you write the maker

SEALING . . Lead base paste for application on threads and gaskets

Source: ARMITE LABORATORIES
6630 Broad St., Los Angeles 1, Calif.

Led-Plate, a lead-base sealing material for brush application on threads and gaskets, now is available in a new formula that does not contain graphite. As a result the material is clean to handle. It applies on pipe lines handling air, ammonia, certain chemicals, gas, oil, steam, water in a temperature range between minus 350 and plus 2,900 deg. F. The material does not dry out in storage or in service. A pipe line can be taken apart after a period of use. Packaging is in 1-lb. containers and also in tubes. A sample tube is available on request for test application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6335 if you write the maker

BANISH "Booby Trap Showers" with the DOUBLE Safety of

POWERS

THERMOSTATIC SHOWER MIXERS

One shower accident may cost many times more than Powers shower mixers. They are really safe and non scald. Temperature of Powers regulated showers remains constant wherever set regardless of *pressure* or *temperature* changes in water supply lines. Failure of cold water supply instantly and completely shuts off the delivery. Bathers can really relax and enjoy the best showers they ever had.

MAY WE SEND CIRCULAR H48?

WRITE

THE POWERS REGULATOR CO., 2737 Greenview Ave.
CHICAGO 14, ILLINOIS • Offices in over 30 cities

BREVITY—Identify by IEN - 6336 if you write the maker

HANNIFIN

HYDRAULIC

Everything you want in CYLINDERS

Here's help for busy machine designers and plant operating engineers. You can save time and money right from the start by checking with Hannifin on all of your hydraulic and pneumatic cylinder requirements. *The Hannifin line is complete!*

Hannifin sets the standard for quality! Perfected, tested designs; finest quality construction. Test-proven packings! Finest seals! Proper finishes! Interchangeable parts! Cylinders "Tru-Bored" and honed; rods ground and polished. For complete information, see your local Hannifin representative, or write.

HANNIFIN CORPORATION
1107 S. Kilbourn Ave.
Chicago 24, Ill.

PNEUMATIC

Helpful BULLETINS

Bulletin 110 (Left) "HANNIFIN HYDRAULIC CYLINDERS"

Bulletin 210 (Right) "HANNIFIN PNEUMATIC CYLINDERS"

BREVITY—Identify by IEN - 6337 if you write the maker

12 BIG REASONS WHY

YOUR BEST BUY is Starrett Satin Chrome MICROMETERS

Satin Chrome Finish eliminates glare, markings stand out sharp and clear, resists rust and stains.

Tapered Frame on all full finish outside micrometers.

Hi-Micro Finish on contact faces of anvils and spindles for more accurate measurements.

Hardened Threads ground from the solid for lasting accuracy.

One Piece Spindle. Insures long, accurate life.

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Decimal Equivalents conveniently marked on frame or thimble.

Sleeve Adjustment maintains Starrett accuracy at all times.

Friction Thimble available if desired. Also available with ratchet stop.

Precision Built by the World's Greatest Toolmakers.

Types for Every Need—Sizes from 1" to 108"—all types including tubular frame, black frame, stainless steel, ball anvil, screw thread, crankshaft, sheet metal, tube and paper gage micrometers.

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Starrett

Standard of Precision

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THE L. S. STARRETT CO. • World's Greatest Toolmakers • ATHOL, MASSACHUSETTS, U. S. A.

BREVITY—Identify by IEN - 6338 if you write the maker

85,000 R.P.M.!

ARO GRINDERS for Modern Metal Alloys!

HIGH SPEED...with SAFETY!

ARO

AIR TOOLS

Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

ARO's famous Turbine Grinder Model 7335 with Erickson precision collets . . . greater gripping power for *greater safety* at high grinding speeds. 1/64" to 1/4" sizes. Excellent for carbide burr work and small mounted points. Write for catalog.

The Aro Equipment Corporation, Bryan, Ohio

Aro Equipment of Canada, Ltd., Toronto

BREVITY—Identify by IEN - 6339 if you write the maker

SAVE MONEY! SEE US BEFORE YOU DESIGN IT!
Write, wire or phone your needs today! Chances are we have just the mould you want! Lowest possible prices — prompt, efficient service. Request new 44 page catalog, today.

LAVELLE Rubber Company
1811 W. Hubbard St., Chicago 22, Ill.

BREVITY—Identify by IEN - 6340 if you write the maker

for close check on surface temperatures

Alnor PYROCON

Wherever a close and frequent check on low surface temperatures must be maintained on machines and materials, you'll find the handy Portable Pyrocon a valuable instrument. It is unexcelled for fast, accurate temperature readings of any surface, flat or curved, stationary or revolving. It may be used with plastic materials, waxes, rubber, liquids, oil or grease, molten soft metals, etc. The rugged Pyrocon can bring laboratory accuracy to your temperature measurement—at low cost. Write today for details on wide selection of thermocouples and extension arms.
Illinois Testing Laboratories, Inc.,

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

BREVITY—Identify by IEN - 6341 if you write the maker

"Haynes Stellite" alloy half bushings

TRADE-MARK

reduce bearing wear caused by:

1. Conditions where efficient lubrication is impractical.
2. Dirt or other abrasive particles between bearings.
3. Corrosive agents in lubricant or atmosphere.
4. Dilution of lubricant or decomposition by heat.

HAYNES STELLITE alloy half bushings resist wear, heat and corrosion. Under conditions of metal to metal contact, they also resist scoring, galling and seizing. The bushings have good fatigue strength, low coefficients of friction and can be attached quickly and easily to the bearing surfaces of new or used shafts or journals.

Write to our General Offices in Kokomo, Indiana, for information on the sizes and prices of available bushings.

Haynes Stellite Company
A Division of Union Carbide and Carbon Corporation
UCC
General Offices and Plant: Kokomo, Indiana

"Haynes Stellite" is a trade-mark of Union Carbide and Carbon Corporation.

BREVITY—Identify by IEN - 6342 if you write the maker

TESTING . . Carbon dioxide indicator to check products of combustion in flue

Source: F. W. DWYER MFG. CO.
307 S. Western Ave., Chicago 12, Ill.

Series 900 designates a new indicator to check flue gases for per cent of carbon dioxide. It employs a Lucite bar-stock body and a dial gage. It is supplied with the required accessories to draw in a sample of flue gas. Gage and accessories are packed with a circular efficiency slide rule in a metal carying case. The indicator is available also as part of a complete kit including a draft gage, smoke gage, dial thermometer and the accessory items.

The vent below the dial is opened and then is closed with the inlet valve held down prior to making a test. The connector on the aspirator tube is slipped over the inlet valve, the aspirator bulb is compressed and released about 20 times. Then the inlet valve is released and the operator shakes or inverts the indicator so the solution contained in the body will have opportunity to make intimate contact with the sample gas. The reading then appears on the dial gage.

BREVITY—Identify by IEN - 6343 if you write the maker

HEATING . . Electric assembly for water, fuel oil, process liquids

Source: EDWIN L. WIEGAND CO.
7505 Thomas Blvd., Pittsburgh 8, Pa.

Rating is 40 to 100 kw. in four new assemblies of insulated cylindrical housing, electric immersion heating elements and thermostat control in the company's line of electric heating equipment. The 40-kw. unit is for use on fuel oil to permit using cheap grades and to promote sufficient combustion by supplying hot oil to a burner for firing.

Sizes including 50, 75 and 100-kw. are available to heat large quantities of water in operation during "off peak" hours when electric current is available at a low rate. The heated water is stored in insulated tanks.

BREVITY—Identify by IEN - 6344 if you write the maker

MANPOWER . . How to feed employees described by manual of policies and procedures

Edmund S. Whitten, Inc.
214-18 Tremont St., Boston 16, Mass.

"Employee Feeding" titles new 92-page book, list price $3, that tells how to set up and operate an employee restaurant. Topics are objectives, organization, layout and equipment, food handling and cooking, menus, cost control. One chapter is devoted to equipment care and preventive maintenance.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6345 if you write the maker

Here is the valve that revolutionized flow control of Sulphuric Acid...

HILLS-McCANNA *Saunders Patent* **DIAPHRAGM VALVE** *with* **L-1 PLASTIC DIAPHRAGM**

SULPHURIC ACID up to 66° Bé can now be valved without leakage, dripping or sticking—with this proved Hills-McCanna development. Available in sizes ½" thru 4"; handwheel operated, lever operated or in sliding stem models. Suitable for pressures up to 100 psi, temperatures up to 125° F. Write for full information. HILLS-McCANNA CO., 2347 W. Nelson St., Chicago 18, Ill.

HILLS-McCANNA CO.
saunders patent
diaphragm valves
Also manufacturers of — Proportioning Pumps
Force-Feed Lubricators • Magnesium Alloy Castings

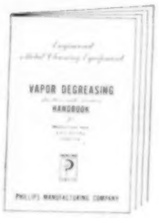
BREVITY—Identify by IEN - 6346 if you write the maker

THE DIRT DRIPS OFF

Leaves the work clean and dry when you suspend it in vapor inside a Phillips degreaser

What work How? Why? How big? Manual? Automatic?

The answers are all in our new 21-page illustrated booklet, "Engineered Metal Cleaning Equipment," covering machines for both production and maintenance on parts from screws to railway motors.



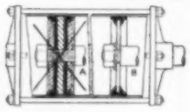
Write for your copy.

PHILLIPS MANUFACTURING COMPANY
3471 Touhy Avenue Chicago 45, Ill.

BREVITY—Identify by IEN - 6347 if you write the maker

Double Acting One-Piece PISTON

ELIMINATES MULTI-CONSTRUCTION (A)
PROVIDES QUICK AND EASY ASSEMBLY (B)



Here's real Saving and Simplification! A complete one piece, Double Acting PISTON — so skillfully designed and constructed that 1 part (B) actually replaces 5 to as high as 7 parts, ordinarily used in conventional assembly (A).

This radically new ALLIS Piston is a unit piston plate and packing. Cup Members are constructed of highly resistant synthetic rubber, molded integrally to a solid metal plate. Time Tested and Proven—Highly Efficient with constant Lip Sealing action. Cannot be installed incorrectly.

Available in all standard cylinder sizes,—for all Hydraulic and Pneumatic mediums such as oil, water, air, etc. Now being used by machinery manufacturers as standard or original equipment. Write for details today.

We produce MOLDED MECHANICAL RUBBER PRODUCTS . . . Bellows, Boots, Packings, Seals, Diaphragms, Dampeners, etc. Each part is Laboratory Controlled and Formulated to meet your operational requirements.

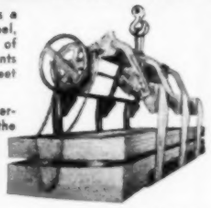
Write today for our illustrated booklet—32 pages of vital information

ALLIS RUBBER CORPORATION
130 N. Green Street Chicago 7, Illinois

BREVITY—Identify by IEN - 6348 if you write the maker

Wide or Narrow... 1 C-F LIFTER HANDLES THEM ALL

Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of jaw and carrying angle adjustments will probably meet all your sheet handling requirements.



Adjustments are made by the operator in a few seconds, permitting the Lifter to shift from wide to narrow sizes almost instantly.

Because it can pick up, carry and unload more loads per hour, using less man and crane time than any other methods, a C-F Lifter will soon pay for itself.

Bulletin SL-25 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There is no obligation.

CULLEN-FRIESTEDT CO.
1310 South Kilbourn Avenue • Chicago 23, Illinois

BREVITY—Identify by IEN - 6349 if you write the maker

FOR SAFETY—EFFICIENCY

The Kelly-Creswell INDUSTRIAL STRIPER

Designed specifically for industrial applications, inside and outside plant buildings. Clean, sharp lines for aisles, safety lanes, restricted areas, parking lots. Operates on any smooth or rough surface, concrete, asphalt, wood block, brick, metal.

Exclusive Kelly-Creswell Air Curtains direct exhaust gas against edges of spray pattern, provide sharp, clean lines without contact with surface. Eliminate guide marks, scrapers. Save up to 20% on striping materials.

- Outside mounted spray assembly permits striping within one inch of posts and walls.
- Spring loaded rear axle eliminates "wobble", even on rough surfaces.
- Striping gun, designed by DeVilbiss especially for striping work and manufactured exclusively for Kelly-Creswell.
- Stripe width quickly adjustable from 3 to 6 inches.

WRITE FOR COMPLETE INFORMATION

KELLY-CRESWELL CO. • Xenia 1, Ohio

World's Largest Manufacturers of Striping Equipment

BREVITY—Identify by IEN - 6350 if you write the maker

INCREASE PRODUCTION with Commander PRODUCTION TOOLS

Adjustable MULTI-DRILL

★ Drills Up to 8 Holes At 1 Stroke
★ Adjustable to Any Hole Pattern
★ Fits Any Drill Press

You can drill 2 to 8 holes at one stroke of a MULTI-DRILL equipped drill press. Instantly and easily adjusted to any hole pattern . . . compact in design and ruggedly built for years of service, thousands of MULTI-DRILLS are cutting costs and increasing output up to 800% wherever metal, wood or plastics are drilled.

Commander TAPPER

★ 1 Tapper Handles Taps #0 to ¾"
★ Automatically Sensitive... Any Operator Can Do Precision Tapping
★ Fits ANY Drill Press

The Tapper that "Thinks for the Operator"

Commander Tappers "think for the operator"—automatically stop when taps are dull, overloaded, or when they strike bottom in blind hole tapping—permit faster tapping, better work, even with inexperienced operators. Torque control provides positive tap protection from #0 to ¾" . . . spring clutch eliminates slippage, assures smooth, quiet, easy operation.

ORDINARY CHIPS

New DRILL CHIP BREAKER

Get these COMMANDER DRILL CHIP BREAKER benefits now:

- Faster Drilling
- Deeper Holes
- Better Holes
- Longer Drill Life
- Safer, Cleaner Work
- REDUCED DRILLING COSTS

CHIP BREAKER CHIPS

Write for illustrated Circulars on Commander Production Tools. Your nearby Commander Distributor carries the full line—write for his name.

Commander MFG. CO.

4219 W. KINZIE ST. • CHICAGO 24, ILL.

BREVITY—Identify by IEN - 6352 if you write the maker

TUMBLING . . Steel enclosed barrel for wet deburring work on metal parts

Source: BELKE MFG. CO.
941-45 N. Cicero Ave., Chicago 47, Ill.

Steel enclosure with a roll-type hood is now available with the company's line of tumbling barrels for wet-deburring operation. The enclosure protects the worker. It includes a chute through which work is delivered when the barrel covers are removed and the barrel is rotated to dumping position.

Sizes range from single-compartment assemblies measuring 8 by 10 in. to four compartments, each measuring 15 by 29 inches. Largest unit in the line has a single compartment measuring 60 by 29 inches. Hard-maple or rubber lining can be specified. A variable-speed drive also is available for operating range between 10 and 40 rpm.

BREVITY—Identify by IEN - 6353 if you write the maker

PLASTIC . . Honeycombed structure is buoyant, made in flat sheets

Source: UNITED STATES RUBBER CO.
1230-32 Sixth Ave., New York 20, N. Y.

Can be formed or molded to shape

Expanded Royalite is a new plastic material honeycombed with millions of tiny non-connecting cells. Moisture cannot penetrate into the structure because the cells do not connect. The material is made in flat sheets with density variable to specification between 5 and 35 lb. per cubic foot. Standard sheet sizes are 46 by 70 in. in width and length. Thickness is ¼, ½, ¾ and 1 inch. The material is an excellent thermal insulator. It has good structural strength.

BREVITY—Identify by IEN - 6354 if you write the maker

FILING . . Reciprocating head for rotary drive at 10,000 rpm. speed

Source: NORD INTERNATIONAL CORP.
50 Church St., Room 864, New York 7, N. Y.

Diprofile is a new portable reciprocating head mounting a chuck to take tools with ¼-in. shanks. At right angles, a rotating spindle connects to a flexible shaft or other suitable means for drive at speeds to 10,000 rpm. The company is prepared to supply a 1/10 to ⅛ hp. motor to specification.

Stroke is adjustable to a maximum of ¼ inch. With suitable cutters it is possible to finish any material including carbide. The head weighs 24 ounces, measures 6-in. in length in line with its drive spindle by 2-in. in housing diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6355 if you write the maker

NO ONE SPEED REDUCER SOLVES EVERY REDUCTION PROBLEM

That's why LINK-BELT builds all 3

Helical Gear Drives Book 2247 | Herringbone Gear Drives Book 2419 | Worm Gear Drives Book 2324

All these books are available to you. Write for copies.

LINK-BELT

LINK-BELT COMPANY Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Johannesburg. Offices, Factory Branch Stores and Distributors in Principal Cities.

BREVITY—Identify by IEN - 6356 if you write the maker

ENGRAVING • PROFILING VERTICAL MILLING WITH THE Engravograph

Write for literature describing:
1. Heavy Duty Engravograph (illustrated) Catalog H-23
2. Portable Engravograph — Catalog IM-23

NEW HERMES, Inc. 13-19 University Place New York 3, N.Y.

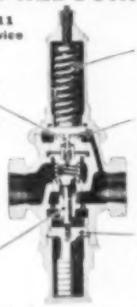
CANADA: 359 St. James St., Montreal

World's Largest Manufacturer of Portable Engraving Machines

BREVITY—Identify by IEN - 6357 if you write the maker

5 Quality Features THAT ASSURE LOW COST PRESSURE REDUCING SERVICE

MASON NO. 11 for Steam Service



1. Carefully calibrated diaphragm spring insures accuracy throughout entire control range.
2. Stainless steel auxiliary valve unit, hardened and ground pilot valve — eliminates sticking and wire drawing.
3. Phosphor bronze diaphragm.
4. Special alloy stainless steel main valve, hardened and general, prevents steam cutting.
5. Bronze piston fitted with cast iron rings operates in ground and polished cylinder.

The No. 11 Mason Reducing Valve assures precise pressure control in all types of applications. Pilot operation assures fast, accurate response to controlled pressure variations. Initial pressure ranges up to 250 lbs. reduced to any desired pressure between 5 and 75 lbs. or 75 and 225 lbs. Bronze bodies, screwed connections in sizes ½" to 2". Iron bodies, 250 lb. flanges in sizes 2½" to 4". Maximum working pressure 250 lbs. @ 450 F.

Your local Mason-Neilan industrial distributor is ready to serve you from his stock

MASON-NEILAN REGULATOR COMPANY

1188 ADAMS STREET, BOSTON 24, MASS., U. S. A.

BREVITY—Identify by IEN - 6358 if you write the maker

BALDWIN-SANBORN

Model 141 Direct Writing Amplifier Recorder

Designed for inkless recording of electrical unbalance of resistance bridge. Amplifier of conventional modulated carrier type, bridge excitation 2500 cycles, is coupled with recorder assembly having flat response up to 40 cps. A vital asset in precision stress-strain testing. Write for Bulletin 332.

BALDWIN-LIMA-HAMILTON

TESTING HEADQUARTERS

Philadelphia 42, Pennsylvania

BREVITY—Identify by IEN - 6359 if you write the maker

NEW APPLETON V-51 SERIES

CONVERTIBLE VAPORTIGHT LIGHTING FIXTURES

One of 256 Fixtures in this complete new line

Exclusive Unit Assembly

Pat. Applied For

Never before a vaportight lighting fixture so safe, so efficient, so easy to install . . . so economically serviced and maintained!

Combined in an exclusive "Unit Assembly," receptacle, globe and guard are detachable as a *single unit* instantly, without tools! Re-lamping or cleaning becomes safe, swift and simple.

Reflector is quickly attached or removed for cleaning without tools—thanks to exclusive neoprene rubber ring attachment. Shock-absorbing socket in "Unit Assembly" permits the use of standard lamps where costlier mill-type lamps were formerly used.

Twist—it's on!

Write for Bulletin 5-A

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY

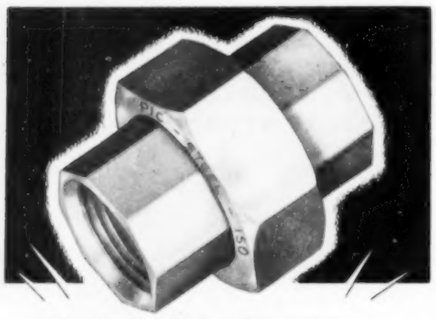
1716 Wellington Avenue • Chicago 13, Illinois

Branch Offices and Resident Representatives in All Principal Markets

APPLETON

CONDUIT FITTINGS • LIGHTING EQUIPMENT • OUTLET AND SWITCH BOXES • EXPLOSION-PROOF FITTINGS • RESILITES

BREVITY—Identify by IEN - 6360 if you write the maker



They're Bright!... Attractive!... Designed to blend with new equipment!

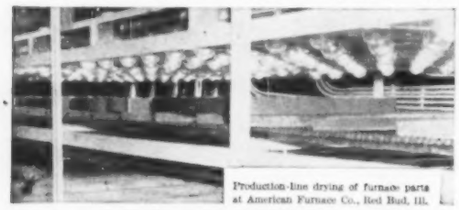
PIC STEEL UNIONS

Bright and attractive in appearance, PIC 150# steel unions fit right in with new equipment. What's more, they're unusually strong—ends are of heavy steel pipe coupling stock. And they're 100% rust protected—covered *even on the threads* with zinc plating. A special wedge-type bronze seat ensures tightness; uniformly flat-sided polygonal ends speed instal ation with open-end wrenches. Cost?—less than a galvanized, no more than a black malleable union.

Write for FREE SAMPLES!

DART UNION COMPANY, Providence 5, R. I.

BREVITY—Identify by IEN - 6361 if you write the maker



Production-line drying of furnace parts at American Furnace Co., Red Bud, Ill.

CUT DRYING TIME IN HALF with

NALCO INFRA-RED LAMPS

Industry-proved Nalco Lamps are cutting hours from production-drying time for scores of big-name users. Long-lasting carbon filaments are especially designed to withstand the heavy demands of production-line drying methods . . . providing greater penetration . . . less glare . . . fewer burnouts. Sealed, reinforced bases insure high-temperature durability.

SAVES MONEY, SPACE TOO! Nalco Lamps keep parts moving faster — save hours and dollars . . . eliminate expensive storage space.

AVAILABLE in inside aluminumed or clear glass types. Nalco also manufactures Infra-red Strips—Portable Units—in all sizes. FREE Bulletin, "Drying Problems Made Easy," upon request.

NALCO INFRA-RED DRITHERM

NORTH AMERICAN Electric Lamp Co.

1016 TYLER ST., ST. LOUIS, MO.

BREVITY—Identify by IEN - 6362 if you write the maker

GAGE . . Attachment part to convert square to height gage

Source: L. S. STARRETT CO.
100 Starrett St., Athol, Mass.

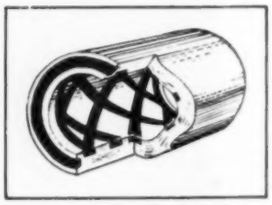
Set No. 289-C, consisting of a clamp block, a scriber, a 6-in. rule and a 6-in. rod, applies with the company's previously-developed No. 289 attachment head to convert its 9, 12, 18 or 24-in. combination squares for height or depth-gage measurements.

The clamp block is used to mount the scriber, rod or rule on the attachment head. The scriber is used to measure and mark vertical distances from a plane surface, to locate center distances and to scribe lines. The 6-in. rule converts the square into a depth gage to measure holes, slots and recesses. The rod applies also as a depth gage for smaller recesses and for use in shoulder holes.

BREVITY—Identify by IEN - 6363 if you write the maker

BEARINGS . . Bronze bushing with inset graphite in bore and pin

Source: BRONZE BEARINGS INC.
526-30 North Ave. E., Cranford, N. J.



GOPI trade names new bronze bushing in which graphite is inset in spiral grooves in the bore and also can be specified in circular grooves at one or both ends. The graphite is applied under pressure and then is baked in place. It serves the purpose of a lubricant in service.

Applications are for equipment operating in remote or inaccessible locations, bearings where fluid lubricants might contaminate work in process, where high temperature is probable, where heavy static loads can rupture an oil film and where a bearing must be subject to neglect.

BREVITY—Identify by IEN - 6364 if you write the maker

CYLINDERS . . Revised Hydraulic Standard offered on request by the company as 16-page bulletin

Miller Motor Co.
4025-29 N. Kedzie Ave., Chicago 18, Ill.

Company has reprinted revised "J.I.C. Hydraulic Standards for Industrial Equipment" in bulletin form and will send you a copy on request. It covers symbols, controls, pumps, valves, cylinders, fittings, reservoirs. A sectional view of the company's hydraulic cylinder shows how it compares.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6365 if you write the maker

BREEZE Job-Engineered BELLOWS

ANOTHER BREEZE MARK PRODUCT

...Give LASTING PROTECTION Where Ordinary Bellows Fail

Breeze welded diaphragm bellows meet the operating life cycle of any equipment in which they are used *because every Breeze bellows design is individually engineered and built for the job.*

Breeze has no "stock bellows," but if you have a vibration problem in ducts, large or small, or want permanently sealed valve enclosures in any type of piping system, or need bellows for torque transmission or other uses, Breeze experience can quickly provide the answer . . . and production can meet your requirements.

A Breeze bellows is dependable because each diaphragm is designed to work well within its elastic limit. This is accomplished by thorough analysis of each application and careful design of the bellows to withstand all requirements. "Job engineering" each individual type eliminates makeshifts, assures efficient performance.

Breeze bellows are made in stainless steel, inconel, monel, nickel, steel, or other weldable alloys.

Feel free to consult us without obligation on your existing bellows requirements, or any other project where reliable welded diaphragm type bellows might solve a design problem.

BREEZE CORPORATIONS, INC.
41-V S. Sixth St., Newark 17, N.J.

OTHER BREEZE PRODUCTS: ACTUATORS · RADIO SHIELDING · AERO-SEAL HOSE CLAMPS

BREVITY—Identify by IEN - 6366 if you write the maker

A Plywood Panel for every need

Plywood WOOD OF 1001 USES

Prompt Shipping Service From AETNA Plywood's 4 Warehouses

Millions of feet of plywood in a complete range of sizes and grades are in stock . . . for immediate shipment from Aetna Plywood's Chicago and Branch Warehouses. Over 40 species, sizes 36" x 48" to 48" x 192", 1/16" to 3" thick.

Use plywood for weatherproof shipping containers, partitions, machine bases or in your product. WHEN YOU NEED PLYWOOD FAST . . . CALL ON AETNA PLYWOOD. Send in your "specs" for a quotation, today.

Write for your free Plywood Buying Guide, the Teleply Ticker #532 Price List.

AETNA PLYWOOD & VENEER CO.

1724 N. Elston Ave., ARMITAGE 6-7100, Chicago 22, Ill.

Branch Warehouses: Grand Rapids, Indianapolis, Rockford, Ill.

BREVITY—Identify by IEN - 6367 if you write the maker

TUNGSTEN-CARBIDE TOOLS AND DIES UP TO 10 times longer life

With HYPREZ DIAMOND COMPOUNDS

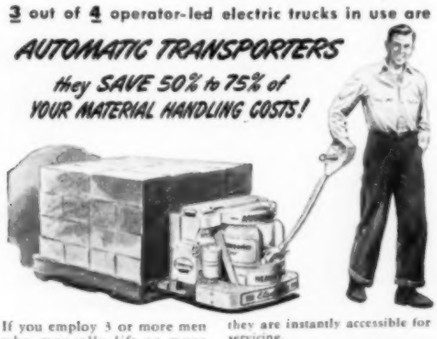
How? WRITE FOR DETAILS TO DEPT. E

HYPREZ DIVISION
ENGIS EQUIPMENT CO.
431 S. DEARBORN ST. CHICAGO 5, ILL.

BREVITY—Identify by IEN - 6368 if you write the maker

3 out of 4 operator-led electric trucks in use are

AUTOMATIC TRANSPORTERS they SAVE 50% to 75% of YOUR MATERIAL HANDLING COSTS!



If you employ 3 or more men who manually lift or move material, new "101" Transporters will cut your material handling costs 50% to 75% . . . help you *speed* production . . . ship *more* goods faster.

Moves tons of your product at the touch of a button . . . raise load to moving height in seconds . . . works all day for as little as pennies.

New "Armored" Powerhead defies destruction of all operating parts, yet they are instantly accessible for servicing.

So compact it turns within its own shadow. "101" Transporters are far more maneuverable . . . operate easily in narrow aisles.

New motor is same size but 20% more efficient . . . designed specially for heavy duty industrial service . . . has ample overload capacity.

Precision manufacture guarantees durability. The thousands of Transporters subjected to the toughest service since 1942 prove they stand up.

WRITE FOR MONEY-SAVING FACTS... FREE BOOKLET

AUTOMATIC TRANSPORTATION CO.
DIV. OF THE YALE & TOWNE MFG. CO.
109 W. 87th Street, Dept. H-1
Chicago 20, Ill.

"101" Transporter
A PRODUCT OF AUTOMATIC

BREVITY—Identify by IEN - 6369 if you write the maker

Have YOU *discovered*

JENKINS' INDIVIDUALIZED METLKOR CYLINDER BRUSHES?

Its smooth, vibrationless performance makes the first minute of use on any machine something worth remembering. Years from then, there will be no let-down of its original performance to mar first impressions. HERE ARE THE REASONS:

1. EVERY *METLKOR* BRUSH IS INDIVIDUALLY MANUFACTURED to exact specifications for its intended use.
2. CORES OF ALUMINUM, COLD DRAWN STEEL, STAINLESS STEEL, COPPER, OR BRONZE are practically indestructible.
3. ANY TYPE OF BRISTLE IS SET ON CORES BY A PATENTED PROCESS, using bands of shaped metal and baked plastic cement to make these brushes impervious to moisture, acid, and alkali resistant, and easy to clean.
4. WHEN, AT LONG LAST, BRISTLE REQUIRES RENEWING, the entire brush is made like new again by our patented process.

JENKINS' *METLKOR* BRUSHES ARE DYNAMICALLY BALANCED when extreme speed is a requirement.

M. W. JENKINS' SONS, INC.
CEDAR GROVE ESSEX COUNTY NEW JERSEY

BREVITY—Identify by IEN - 6370 if you write the maker

IT'S DIFFICULT— to do a good job hanging on to a rickety ladder

It's Easy with a MODEL PUL

HI-REACH PLATFORM TELESCOPER

Positive safety relieves the workman of all uneasiness and inclination to hurry the job. Both hands free to work in comfort with undivided attention.

When platform is elevated to convenient working position, maintenance man can go up or down built-in steps and rungs without lowering Telescoper platform. When telescoped down to its minimum height of 6'8", its 32" width the Hi-Reach can be rolled through doorways or narrow shop aisles.

THREE STANDARD MODELS:

No. 1—Platform lift 10'9"....$295.00
No. 2—Platform lift 11'9".... 305.00
No. 3—Platform lift 15'0".... 330.00

Rubber-tired wheels—$5.00 extra
F.O.B. Chicago

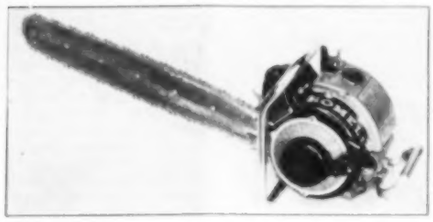
Other Hi-Reach Platform Telescopers available with platform lifts up to 60' or more. Write for complete detailed specifications. Address inquiries to E. W. McDonnell for personal service.

ECONOMY ENGINEERING COMPANY
4502 WEST LAKE STREET, CHICAGO 24, ILLINOIS

BREVITY—Identify by IEN - 6372 if you write the maker

WOOD WORKING . . Chain saw, straight and bow designs, engine drive

Source: HOMELITE CORP.
65-69 Riverdale Ave., Dept. IEN, Port Chester, N. Y.



Model 26LCS is a new 27-lb., 4-hp. engine-driven chain saw in which the engine is connected to the driving sprocket by a Gilmer toothed belt, previously described IEN-1883-51. The belt takes the place of gearing between the engine and the sprocket. It operates with a centrifugal clutch which stops the chain when the engine is idling and prevents overload if the chain should bind in a cut. A concentric-bowl carburetor permits operation at extreme angles. The head is turned for horizontal or vertical cutting after pressing a release button at the rear handle.

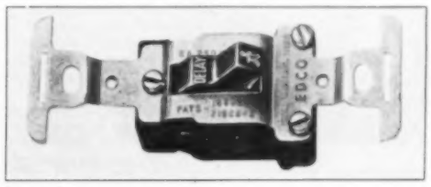
Rotating shafts ride in ball and needle bearings. A built-in governor prevents racing during free operation. An air cleaner protects the engine intake. A plunger lubricator supplies oil to the chain sprockets and guide bar.

The saw is available for one-man operation with 18, 23 and 30-in. blades. It is supplied for two-man operation with straight 23, 30 and 42-in. blades. A bow-saw design for one or two-man operation is in 19 and 25-in. sizes.

BREVITY—Identify by IEN - 6373 if you write the maker

SWITCH . . Toggle type unit delays opening of a lighting circuit

Source: ELECTRIC DEODORIZER CORP.
9991-95 Broadstreet, Detroit 4, Mich.



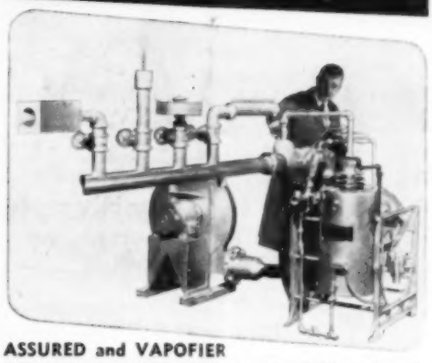
Delay interval of about a minute immediately follows movement of the toggle lever in this new switch to "off" position before the circuit contacts open. As a result lamps remain lighted in the circuit for a sufficient interval after the switch has been turned off so the operator can move through the lighted area and need not walk in the dark. Separate "snaps" can be heard, one when the switch is turned off and the second when the circuit is opened.

The switch applies in any existing wall outlet box as well as in new construction. It is inspected and approved by Underwriters' Laboratories, Inc. The design is flush-toggle, single-pole, with ratings at 10 amp. on 110-volt, 5 amp. at 220-volt ac. The delay interval is provided by a spring-loaded neoprene diaphragm in a sealed evacuated chamber.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6374 if you write the maker

PRODUCTION INSURANCE *against* GAS CURTAILMENT



ASSURED and VAPOFIER

Many costly plant shutdowns have been avoided by installing Vapofier as a dependable gas supply. Over 100 varied types of industries use it. Produces clean, sootless, odorless gas by vaporizing (not atomizing) fuel oil. Reliable automatic control, constant fuel-air ratio and uniform manifold pressure. Quick change from utility gas without flame interruption, using same piping and burners. 9 sizes with capacities from 70,000 to 4,000,000 B.T.U.'s per hour.

Write for complete details on the advantages of firing with Vapofier.

VAPOFIER CORP. • 10326 S. Throop St., Chicago 43, Ill.

BREVITY—Identify by IEN - 6375 if you write the maker

Users Tell Our Story Best!

163 ORDERS FROM 3 CUSTOMERS ALONE...TOTALED 1,421,402 LBS.

SPEED PATCH

WORLD'S FINEST, FASTEST, FLOOR FIXER!

TAKES ONLY ONE MINUTE PER SQUARE FOOT!

Think of it...just 3 customers purchased almost 1½ million lbs. of Speed Patch. And more orders are coming from them regularly. They have ordered loads of other Rock-Tred products as well. Must be good. Let their experience be your guide. Find out how Speed Patch can make your floors pay off in cash. Write today!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

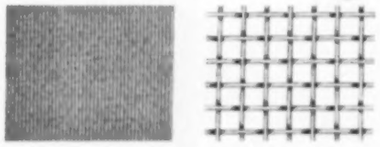
BREVITY—Identify by IEN - 6376 if you write the maker

WOVEN WIRE

Roebling makes a complete range for every industrial need

FROM FINEST FILTER CLOTH to toughest aggregate screen, the Roebling line of woven wire products brings maximum efficiency . . . exceptional service life and dollar-savings. And that's because Roebling offers you exactly the right weaves and constructions for your particular operations . . . combined with wires made of special metals or alloys that will stand up best and longest under your individual working conditions.

Send for full woven wire information today.



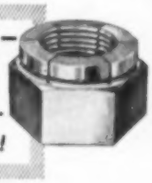
WOVEN WIRE FABRICS DIVISION
John A. Roebling's Sons Company, Roebling, New Jersey

ROEBLING

BREVITY—Identify by IEN - 6377 if you write the maker

A fastener AIN'T, if— it works loose.

The "FLEXLOC" IS— because it won't!



FLEXLOC®

ONE-PIECE, ALL-METAL
STOP- and LOCK-NUT

Its "chuck-like," resilient locking segments lock the "FLEXLOC" securely in any position on a threaded member with a controlled, uniform and dependable torque.

Tough applications demonstrate that the "FLEXLOC" positively "won't work loose", yet it can be removed easily with a wrench when desired. Because it is all-metal, temperatures as high as 550°F. hold no terrors for the "FLEXLOC."

The "FLEXLOC" has plenty of tensile . . . can be re-used many times . . . has therefore a long, effective life.

Write for further information and free samples.

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 14, PENNSYLVANIA

BREVITY—Identify by IEN - 6378 if you write the maker

GRADUATE DIALS . . . this fast, easy way!

The ABRASIVE MODEL GC GRADUATING MACHINE puts new speed into your graduating operations. Dials, handwheels, knobs, etc. can now be graduated in a fraction of the time taken by old-fashioned, makeshift methods. For instance, this machine now completes the 250 graduations on a 5¼" handwheel in 1¼ mins. (45 mins. per piece by the method formerly used). 30 to 55 wheels, dials, etc., per hour is typical of this machine. Model GC is highly adaptable . . . easy to change from one size and type of work to another.

Try Model GC on your own work. It's available for prompt delivery. Send for illustrated catalog. ABRASIVE MACHINE TOOL CO., 18 Dunellen Road, East Providence 14, R. I. *Distributors Throughout The World.*

ABRASIVE ACCURACY BOOSTS PRODUCTION — *Abrasive Quality is Reflected in the Finish of Your Product*

BREVITY—Identify by IEN - 6379 if you write the maker

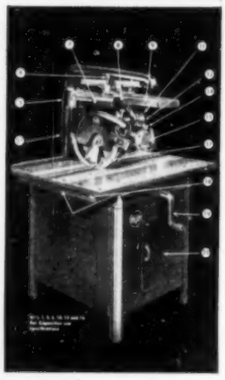
COMPARE the new Delta 40-B WITH ANY OTHER RADIAL SAW!

ONLY DELTA HAS ALL THESE 20 FEATURES—

1. Capacity Cut-off 16" x 1" and Rip to Center 48" Panel
2. Locks, Levers, Scales, Controls up Front
3. Inter-locking Safety Plug Disconnects Power Line
4. Quick-Set Miter Stops 30°—45°—60°
5. Range Full Miter Capacity 0 to 90° RIGHT
6. Range Full Miter Capacity 0 to 90° LEFT
7. Grease Shielded Ball Bearing Carriage
8. Track Wipers Keep Trackways Clean
9. Adjustable Nitralloy Lifetime Trackways
10. Saw-arm Swings Full 360° Above Work Table
11. Motor has "Built-in" 115 to 230 Voltage Changer
12. Voltage Relay Start. 1 Phase Totally Enclosed Motor
13. Motor Tilts 360° Inside Yoke
14. Quick-Set Bevel Stops 30°—45°—60°—90°
15. Finger-Tip "Start Stop" Motor Switch
16. Full Cut-off Capacity at Any Angle 0 to 90°
17. Safety Guard Fully Enclosed Saw Blade
18. Means Provided to Attach Extension Tables
19. Column Elevating Handle at Front
20. Big 8 cu. ft. Tool Storage Cabinet Base

Saw Board "X" with solid arm has only 5 of these features. Saw Board "Y" with sliding arm has only 8 of these features. Delta has all 20.

Write for complete Delta radial saw data, including cost comparisons, or see classified phone books under "Tools" for dealer's name.



There's a Delta Power Tool for Your Job—WOOD OR METAL WORKING

53 MACHINES — 246 VARIETIES — MORE THAN 1300 ACCESSORIES

DELTA MILWAUKEE — DELTA POWER TOOL DIVISION
Rockwell MANUFACTURING COMPANY
615F E. VIENNA AVENUE, MILWAUKEE 1, WISCONSIN

BREVITY—Identify by IEN - 6380 if you write the maker

FASTER CLEANING AND SERVICING ON-THE-JOB!

IN LESS THAN A MINUTE—without the aid of tools—you can service a Hansen Tacker on-the-job!

Simply swing-out the Take-up Jaw, insert Channel Cleaner, and swing-in the Take-up Jaw (see pictures at left). Only sixty seconds to service!

No jobs delayed; no waits for return from factory. Hansen *stays on the job!* Tacks faster! Works easier! Saves man-hours!

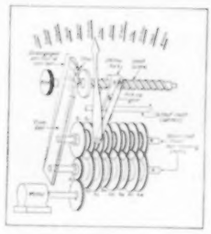
REQUEST BOOKLET!

A. L. HANSEN MFG. CO.
5051 Ravenswood Ave.
CHICAGO 40, ILL.

BREVITY—Identify by IEN - 6381 if you write the maker

DRIVE . . Geared transmission provides 13 speeds for instrument drive

Source: GORRELL & GORRELL
Box 10, Haworth, N. J.



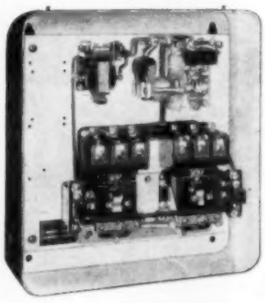
Two shafts mounted horizontally in this new transmission in stationary position support matching sets of brass gears as shown in the illustration. Adjacent large and small gears are secured together and are mounted on Oilite bearings for free movement on the shafts. Near the top of the assembly is a thumb-operated screw that moves a follower to engage a pick-up gear on a splined output shaft with any selected one of the larger gears on the central stationary shaft. A cam bar locks a selected position. The user supplies a synchronous motor to drive the first gear in the train.

High speed provides 1 rpm. in 1 second. Low speed provides 1 revolution in 28 days. A similar assembly is available for a range between 1 min. and 28 days by omitting the three faster speeds. List price is $65 in small quantities without motor.

BREVITY—Identify by IEN - 6382 if you write the maker

MOTOR CONTROL . . Timer unit for motor driving a washing machine

Source: ALLEN-BRADLEY CO.
1312 S. 2nd St., Milwaukee 14, Wis.



Bulletin 723 designates a new timer-operated motor control for use with a squirrel-cage motor to drive a commercial washing machine. The control operates the motor in one direction for a given interval, then provides an adjustable dwell after which the motor is reversed for operation for an equal interval in the opposite direction. Four reversals per min. constitute a normal cycle of intended operation for the unit.

BREVITY—Identify by IEN - 6383 if you write the maker

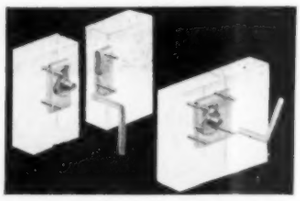
DIE CASTINGS . . How they are made and suggestions on die design in new booklet

Hoover Co.
51 Hoover St., North Canton, Ohio

Pictures show twelve steps in production of die castings from engineering to shipping in new 12-page bulletin, "Die Castings." Notes accompany each step. There is a captioned drawing and a list of suggestions on product design for die casting. A table lists data on twelve alloys. A diagram shows production schedule up to delivery.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6384 if you write the maker



Serrated, tapered cam engages lip—draws panels tightly together when turned by any hand tool.

How to fasten panels securely—and take them apart easily

Roto-Locks fasten demountable panels quickly and securely—at right angles or butt joint. Just turn the tapered cam to lock, turn again to unlock. Check these other Roto-Lock features, too:

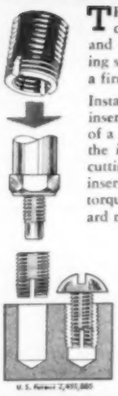
1. Roto-Lock carries *both* heavy shear and tension loads.
2. Exerts enough pressure to form an air- and water-tight seal when gaskets are used.
3. Fastens in any mis-aligned or semi-open position.
4. Recesses *completely* into panels.
5. Has no springs or delicate mechanical parts.

Portable shelters, air freight and cold storage shipping containers, walk-in coolers, demountable furniture and scaffolding are a few of the many products using Roto-Locks. Write today for catalog.

SIMMONS FASTENERS
SPRING-LOCK • QUICK-LOCK • ROTO-LOCK
Simmons Fastener Corp., 1758 N. Broadway, Albany, N. Y.

BREVITY—Identify by IEN - 6385 if you write the maker

Is thread stripping your problem? use TAP-LOK INSERTS for stronger — durable threads



THE Tap-Lok Insert increases the strength of tapped threads in aluminum, plastics and other materials of relatively low shearing strength. Its enlarged shear area provides a firm anchorage for threaded fastenings.

Installation is easy. A simple tool drives the insert into a cored or drilled hole of the size of a tap drill hole for the external thread of the insert. It taps its own thread with the cutting edges of its slotted segments. The insert remains firmly anchored because more torque is required to dislodge it than a standard machine screw can withstand.

The Tap-Lok Insert eliminates the losses and weaknesses of molded-in and cast-in inserts—improves the product at lower costs.

Send for samples and descriptive folder

Also manufacturers of Groov-Pins—for positive locking press fit.

GROOV-PIN CORPORATION
2012 Kerrigan Avenue
Union City, N. J.

BREVITY—Identify by IEN - 6386 if you write the maker

The adjustable handle makes it possible to scrub and wax polish in congested places where hand cleaning was necessary before — around and under machines, counters, desks, lockers, etc.

Operator can raise or lower handle to any angle within an 80 degree arc and shove the Lawler under anything where there is at least a 9½" opening and as far back as 4½ feet. Three models—a size to suit every need.

Write for literature on adjustable handle models and other Lawlor units.

There's a complete line of Lawlor Floor Maintenance Equipment — scrubbers, wax polishers, mopping tanks, mop wringers.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 years
120 N. ABERDEEN ST., CHICAGO 7, ILL.

BREVITY—Identify by IEN - 6387 if you write the maker

Keep hands out of danger zone

...eliminate one hand operation — increase production

Power Presses—Equip your power presses with Schrader pneumatic press controls for a bigger, better and safer day's work. The hands that feed the die must also operate the control valves, located outside the danger zone, to actuate the press.
Kick and Foot Presses—Schrader also supplies a hand operated pneumatic control especially for foot presses. This control eliminates fatigue, delivers a uniform ram pressure each stroke, reduces spoilage. Comes in a complete easily installed set.

Write for more information and literature about Schrader Press Controls.

Schrader Pneumatic Controls may also be obtained in complete sets for foot operation, or for combined hand and foot operation.

A. SCHRADER'S SON
Dept. A-1 458 Vanderbilt Avenue, Brooklyn 17, N. Y.
Division of Scovill Manufacturing Company, Incorporated

BREVITY—Identify by IEN - 6388 if you write the maker

New! all purpose PROPANE TORCH

MUTUAL B-91

With

REFILL CYLINDER

- PORTABLE
- LIGHT BRAZING
- SOLDERING
- SWEATING
- MELTING
- HEATS to 2300° F.
- ICC CYLINDER

PLUMBERS, TINNERS, LINESMEN, REPAIRMEN

Use PROPANE—hot, fast, clean, safe and most convenient fuel known. This MUTUAL B-91 Torch is ready for instant use. No pumping, priming or waiting. No dirty soot. Flame won't blow out. Easy and safe to light and adjust. Over 4½ hrs. continuous use in each cylinder. Refills sold or rented. Variety of torch tips and burners available separately or as kit shown. Send TODAY for complete details.

Mutual LIQUID GAS EQUIPMENT CO., Inc.
3400 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

BREVITY—Identify by IEN - 6389 if you write the maker

FABRICATED SCREENS STRAINERS

TO YOUR SPECIFICATIONS

- PRODUCTION RUNS
- HIGH QUALITY

NEWARK offers a "complete package" service in the design and manufacture of fabricated woven wire parts. We design and manufacture screens and strainers for all types of service; for handling oil, water, gasoline, air, corrosive gases or steam.

We manufacture the wire cloth, thus insuring its accuracy; we also do all the necessary cutting, forming, soldering, stamping, punching, welding and seaming. In other words, it's a NEWARK job from start to finish.

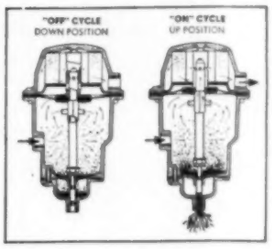
Newark Wire Cloth COMPANY
351 Verona Avenue • Newark 4, New Jersey

NEWARK for ACCURACY

BREVITY—Identify by IEN - 6391 if you write the maker

VALVE . . Diaphragm operated, drains water, oil from compressed air

Source: WILKERSON CORP.
1745 S. Broadway, Denver 10, Colo.



Water, oil and entrained dirt are removed from compressed air by this new valve which combines the functions of a separator and trap in a compressed air line. The valve assembles in the line as near as practical to the point of use for the compressed air. Flow is in through the side of the housing near the bottom below the diaphragm. Outlet is in the side of the head above the diaphragm near the top. Connection between the upper and lower chambers is through openings leading into the center of the stem carried by the diaphragm and out through radial openings near the top of the stem in the upper chamber.

Three sizes are for use in ¼, ⅜ and ½-in. pipe lines. Maximum capacity at 100 lb. is 28, 62 and 94 cfm. Operating pressure range is 15 to 200 lb. for the smallest unit, 15 to 250 lb. for the other two.

Incoming air fills the chamber below the diaphragm, comes to rest in the comparatively large area and drops out moisture, oil and dirt. They move by gravity to the bottom of this chamber and flow from the chamber to a smaller chamber below it. They are prevented from leaving the body of the valve by the O-ring on the stem which seals the outlet port. This condition holds as long as the main flow outlet above the diaphragm is closed so pressure above the diaphragm holds the stem down.

As air is used and there is outward flow, pressure decreases above the diaphragm and pressure below it moves it and the stem upward. This seals the passage between two bottom chambers by means of a second O-ring on the stem and opens the bottom outlet so compressed air trapped in the lower chamber blows the foreign matter out. The cycle takes place on each opening and closing of the outlet line. Overall dimensions range from 4⅝ to 7½ in. in greatest diameter by 7⅝ to 11⅝ in. in overall height. Designations are Models 1002, 1051, 1052, for the three sizes in the line.

BREVITY—Identify by IEN - 6392 if you write the maker

CLEANING . . Phosphoric liquid cleans metal surfaces prior to painting

Source: WESTVILLE LABORATORIES
51 Wheeler Road, Monroe, Conn.

List price is $1.50 or $1.35 per gallon

Metal-Redi is a new wipe-off type of liquid cleaning material for application by brush or steel wool on a rusted or grease and oil-coated metal surface. Following application, the liquid is wiped off with a cloth and the surface is permitted to dry for 5 to 10 minutes. Then it can be painted.

Coverage is 600 to 1,800 sq. ft. per gal. depending on the solution strength of the liquid. The cleaning action removes any film of grease or oil and forms an iron-phosphate coating which acts as a good bond for paint. Packaging is in gallon jugs, four to a case, or in returnable carboys.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6393 if you write the maker

Important Facts about VERSATOL* GEOPRENE Power and Control Cable in this FREE BOOKLET

Here, in a big new booklet, you'll find interesting and useful information about G-E Versatol-Geoprene general-purpose cable. This booklet, with selection data and suggested applications, will come in handy when you need any of the following types of cable:—

Power Cable • Lighting Cable • Control Cable

for installations in raceways, for direct burial in the ground, or in open air.

This nonmetallic rubber-type cable has GR-S (Buna-S) insulation and a neoprene-compound jacket. It is resistant to moisture, heat, aging, sunlight, oils, soil acids and alkalies, abrasion, and flame. It is economical to install, has excellent electrical characteristics, and lasts a long time.

To get your copy of this 12-page booklet, without charge, write Section W62-642, Construction Materials Department, General Electric Company, Bridgeport 2, Conn.

*Registered Trade Mark of General Electric Company.

GENERAL ELECTRIC

BREVITY—Identify by IEN - 6394 if you write the maker

An important message to users of tin base babbitt:

HOW TO SAVE UP TO 50% ON BABBITT COSTS

Once again tin base babbitt is scarce . . . and prices are high. You can beat this high price and delivery problem—today—with a babbitt costing about HALF as much per pound . . . N-B-M No. 397 Silver Babbitt. Performance?

Leading Diesel Producer*—*"Doing an excellent job."* (On diesel engine bearings, for the past 6 years).

Large Cement Plant*—*"Given us 4 to 5 times the service."* (Of formerly used tin-base babbitt).

N-B-M Silver Babbitt has been thoroughly service proved—and it's *available for immediate delivery from current stocks.* Here's a chance to make big savings in your plant . . .

Write today for quotations and service data

*Name on request

AMERICAN Brake Shoe COMPANY — NATIONAL BEARING DIVISION
1021 Manchester Avenue • St. Louis 10, Mo.

PLANTS IN: ST. LOUIS, MO. • MEADVILLE, PA. • NILES, OHIO • PORTSMOUTH, VA. • ST. PAUL, MINN. • CHICAGO, ILL.

BREVITY—Identify by IEN - 6395 if you write the maker

machine designers

this informative engineering handbook can help you!

If you design lift trucks, hoists, counterweight suspensions, controls, or any type of equipment where you must transmit pull or lift, this informative, free engineering handbook on tension linkages will help you!

Send for your free copy today. Just fill in and mail the coupon below. There is no obligation.

BALDWIN-REX ROLLER CHAINS

BALDWIN-DUCKWORTH — 51-409C
Division of Chain Belt Company
358 Plainfield Street
Springfield 2, Mass.

Send me my copy of your Bulletin on Tension Linkages.

NAME.....
COMPANY.....DEPT.....
ADDRESS.....
CITY.....STATE.....

BREVITY—Identify by IEN - 6396 if you write the maker

GET YOUR COPY NOW!

—of "Standard's" UNBRAKO *Standards.*

Write on your business letterhead, today.

SOCKET UNBRAKO® SCREWS

"Standard" recommends *Standards*

SPS STANDARD PRESSED STEEL CO.
JENKINTOWN 14, PENNSYLVANIA

BREVITY—Identify by IEN - 6397 if you write the maker

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses; as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

AMERICAN HAIR & FELT CO.
Dept. X 16, Merchandise Mart Chicago 54, Illinois

BREVITY—Identify by IEN - 6398 if you write the maker

SOLVES Many Air Control PROBLEMS!

Model NE Electric Valve Controls Single- or Double-Acting Air Cylinders

10 WATT SOLENOIDS—Little power needed because air does the work. No relays, no transformers required. Operates directly off regular 110 or 220 v. circuits. Solenoids continuously rated.

FAST, EFFORTLESS CONTROL—Works by push button, limit switch, or any light contact. Only momentary contact needed. Ideal for remote control . . . interlock or sequence operation . . . building into equipment.

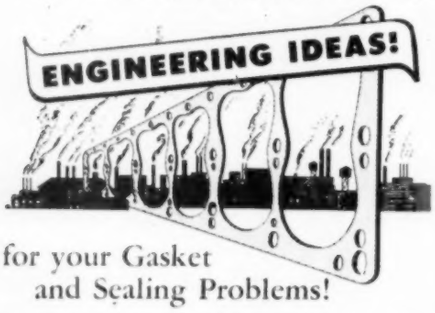
DISC TYPE—Metal-to-metal seat; self-lapping; positively air-tight. Air-actuated piston shifts main disc; solenoids merely open and close ports which control piston. Action is quiet, quick.

HANNIFIN ENGINEERED—Small, rugged, self-contained. Type 1 for control of advance and return cylinder strokes through separate push buttons. Type 2 for single push button control—equivalent to spring return valve action. Sizes ⅜", ½", and ¾". 25 to 150 p.s.i.

Ask for Bulletin 230

HANNIFIN *Corporation*
1107 So. Kilbourn Avenue • Chicago 24, Illinois
Nationwide Sales and Service

BREVITY—Identify by IEN - 6399 if you write the maker



for your Gasket and Sealing Problems!

Looking for new ideas on gasketing or sealing? Let Fel-Pro Engineers help you solve these problems. For over 30 years Fel-Pro has designed and developed sealing materials, gaskets, etc. for industry. This experience can be put to work for you. Send us details and specifications on any of your specific requirements for our cost-cutting, product-improving ideas and recommendations. Write: FELT PRODUCTS MFG. CO., 1523 Carroll Avenue, Chicago 7, Ill.

5020NED

FEL-PRO Utilize Newest Materials
ENGINEERED
Specifically Designed for your product
gaskets

BREVITY—Identify by IEN - 6400 if you write the maker

CONVEYING . . Wood roller assembly for spark proof operation is portable

Source: SAMUEL OLSON MFG. CO.
2420-22 Bloomingdale Ave., Chicago 47, Ill.

Maple rollers equipped with brass ferrules at their ends are mounted on hexagon shafts that ride in ball bearings in this new spark-proof roller conveyor. Maple side guards extend about 1 in. beyond the steel frame and over the ends of the rollers. Work carried on the conveyor cannot strike the steel frame to cause sparking.

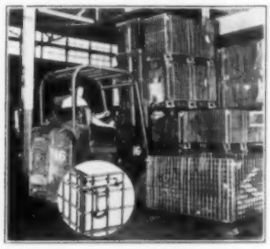
The frame is equipped with feet assembled on casters with ball-bearing rubber-tired wheels and swivels. The conveyor also is available with fixed supports for permanent use.

The sections are available to 3-ft. width and to 10-ft. length with load-carrying capacity at 100 lb. per lineal foot. Sections can be joined with rigid couplings or by temporary means to form any required overall length.

BREVITY—Identify by IEN - 6401 if you write the maker

HANDLING . . Collapsible wire box in assembly on steel pallet type base

Source: UNION STEEL PRODUCTS CO.
405 Pine St., Albion, Mich.



Leg supports made of cast steel are welded to the bottom and to the reinforced-steel base runners in this new design of the company's Palletainer, previously described IEN-10267-50. The legs also provide a cast-steel recess that acts as an interlock for stacking. Further improvement is in a new positive-locking device as shown in the illustration inset.

The locks hold the welded wire-mesh panels in upright position. When they are released and the sides folded down, the unit stacks in comparatively small space for return shipment. Load capacity is 2 ton for a unit measuring 48 by 48 by 24 in. and made of 8-gage steel wire. Other sizes can be specified.

BREVITY—Identify by IEN - 6402 if you write the maker

GRINDING . . Picture booklet shows surface grinder setups on war work

Mattison Machine Works
543-47 Blackhawk Park Ave., Rockford, Ill.

Examples of form work done on the company's surface grinding machine are shown by illustrations in new 8-page Bulletin GL. These examples include the fixtures involved together with the work piece itself and the number per load.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6403 if you write the maker

Destination: Korea!

Battery of TRENT electrically heated ovens in which small glass ampules are dried and sterilized before being filled with penicillin, streptomycin and sulpha drugs, principally for our armed forces.

Heat is produced by TRENT patented "FOLDED-and-FORMED" Heating Elements, assuring absolute temperature uniformity, with complete freedom from maintenance.

"FOLDED-and-FORMED" Heating Elements are available in standard 12" x 12" racks for easy installation, horizontally or vertically, in multiples to meet any capacity requirement, at temperatures up to 1350° F. Five year guarantee.

TREN INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE PHILA 27 PA

BREVITY—Identify by IEN - 6404 if you write the maker

OHIO WELD SCREWS
For economical Spot Welding

Ohio SS Spotweld Screws

Thread Sizes, No. 6-32 to ½-20

Materials: Low Carbon Steel, Brass or Stainless Steel

For dependable Projection Welding Ohio GW and HW Weld Screws

Thread Sizes, No. 6-32 to ½-20

Materials: Low Carbon Steel, Brass or Stainless Steel

For list of stock sizes and samples, send to

THE OHIO NUT & BOLT COMPANY
604 FRONT STREET BEREA, OHIO

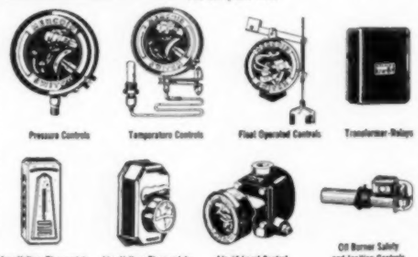
BREVITY—Identify by IEN - 6405 if you write the maker

MERCOID

AUTOMATIC CONTROLS FOR HEATING, AIR CONDITIONING, REFRIGERATION AND VARIOUS INDUSTRIAL APPLICATIONS

THE ONLY 100% MERCURY SWITCH EQUIPPED CONTROLS

The distinguishing feature of Mercoid Controls is the exclusive use of Mercoid hermetically sealed mercury switches. These switches are not subject to dust, dirt or corrosion, thereby assuring better performance and longer control life. The items shown below are but a few miscellaneous items. See Catalog No. 700 for the complete line.



If you have a problem involving the automatic control of pressure, temperature, liquid level, mechanical operations, etc., it will pay you to consult Mercoid's engineering staff — always at your service.

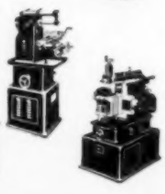
THE MERCOID CORPORATION - 4223 BELMONT AVE. CHICAGO 41 - ILL.

BREVITY—Identify by IEN - 6406 if you write the maker

Replace for PROFIT with SHELDON Precision Lathes

The great bulk of everyday tool room jobs come within the capacity of Sheldon Precision Lathes—can be done with equal accuracy, at lower tool cost, lower power cost, in less time, *and of greater profit* on a Sheldon than it can on many of the costly, cumbersome, space-wasting older lathes found in most shops.

These extremely accurate (Zero Precision Taper Roller Bearings), large capacity for size (1⅝" hole thru spindle), light, fast, easy to operate, space-saving, moderate priced lathes will turn out not only more pieces per dollar, but on many jobs, more pieces per hour, than most older large lathes. When figuring replacement of obsolete equipment, remember you can have two or more of these efficient little money makers for the tool investment you made for the large lathe you are replacing.



Write for Catalog

SHELDON
CHICAGO

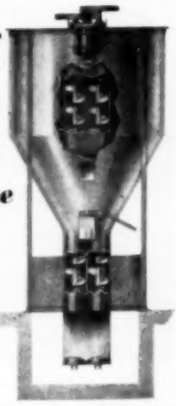
SHELDON MACHINE CO., INC., 4208 N. Knox Ave., Chicago 41, Ill.

BREVITY—Identify by IEN - 6407 if you write the maker

• two times faster

• a better mix

• less floor space



Blue Streak

TWO-SPEED

TWIN SPIRAL

MIXER

This compact mixer provides high capacity production with a saving in floor space and time.

Its faster, more accurate blending is assured through the use of two-speed twin spirals. Mixing is complete and uniform in half the time, resulting in a product of constant quality at lower cost. Sturdy construction provides the added factor of dependability under all work loads. Write now for full information.

PRATER

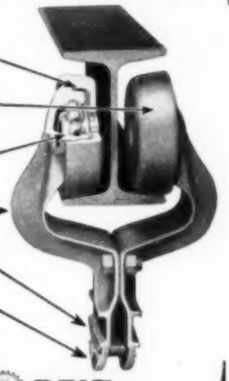
PRATER PULVERIZER COMPANY

1536 S. 55th Court, Chicago 50, Ill.

BREVITY—Identify by IEN - 6408 if you write the maker

Important points to look for when you buy trolleys

You get them all when you buy Link-Belt



Effective sealing of wheel and bracket keeps out dust and dirt, yet wheels turn freely.

Wheels are drop-forged, internally machined to extremely close tolerances.

Raceways are induction hardened. High load capacity is based on entire assembly — not just on bearing.

Rugged, one-piece bracket and clevis are drop-forged and heat-treated—fewer parts to maintain.

Trolley can replace other makes without disturbing chain's operating position.

Clevis pins are locked in bracket, cannot rotate. Bracket wear is minimized.

Write for Folder 2241-B.

LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8. 12,304

BREVITY—Identify by IEN - 6409 if you write the maker

DO YOU LABEL ROUND CONTAINERS?

..Tin Cans?
..Fibre Cans?
..Glass Jars?

IF YOU DO ..YOU *Need* THIS NEW BULLETIN!

Your labeled products are competing with thousands for the buyer's attention. Is their outward appearance worthy of the contents? This 8 page Round Container Labeling Bulletin, profusely illustrated, tells you how to achieve clean, neatly labeled, salable containers at low cost. Modern can labeling methods and machines available today to give you top efficiency in your labeling department are fully described. Learn all about the many Paisley scientifically designed Cold and Hot Pickup Gums, Lap Pastes and Spot Labeling Adhesives. Meet the competition in your industry with the help of Paisley Round Container Labeling Adhesives. Send for your copy now.

FREE.. *just paste this ad on your letterhead, indicate your name and mail to us now for your free copy of this helpful 8-page Round Container Bulletin.*

Paisley ADHESIVES

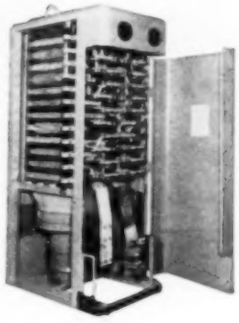
PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.

BREVITY—Identify by IEN - 6410 if you write the maker

TESTING . . Loading resistor to load test diesel electric locomotive

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



New resistor, Type 17-EM55D2, is rated at 3,450 amp. on continuous duty, 4,000 amp. for a 15-min. interval sufficient to load test a diesel-electric locomotive to 2,500 hp. The unit is designed to serve in run-in tests following installation of new bearings. It applies in setting the generator-current limits. It is self-contained, requires only electrical connection to the power cable on the locomotive.

The resistor consists of 12 air-cooled resistor units Type EM-50 with aluminum-chromium-iron resistance elements in parallel strips. Maximum designed operating temperature is 350 deg. C. A blower unit is mounted vertically below the resistor elements. It operates through an air diffuser to distribute cooling air from screened intakes in the base so heat generated by the electric load will be dissipated. Blower speed increases automatically with increase in resistor load.

Test points are obtained by a combination of switches on a panel inside the housing door. Two switchboard-type instruments are mounted on the housing above the door to read current and voltage for conversion to horsepower.

BREVITY—Identify by IEN - 6411 if you write the maker

WOOD WORKING . . Portable saw, four sizes, 6⅜ to 9⅝ in. blades

Source: CUMMINS PORTABLE TOOLS DIVISION
4738-42 N. Ravenswood Ave., Chicago 40, Ill.

Four new models have been added to the company's line of portable electric saws in which universal ball-bearing motors operate on 110-volt input in standard construction or on 220 volts to specification.

Model 700 weighs 10 lb., takes a 6¾-in. blade, cuts square through 2 1/16 inches. Its no-load speed is 5,500 rpm.

Model 800 weighs 14 lb., mounts an 8-in. blade, cuts through 2⅝ in., operates at 4,600 rpm. free.

Model 905 weighs 19 lb., mounts an 8-in. blade, rates 2⅝ in. on a square cut, operates at 3,600 rpm. free.

Model 1000 weighs 22 lb., mounts a 9⅝-in. blade, cuts square through 3 7/16 in. and operates free at 3,400 rpm.

All four employ die-cast aluminum housings with ball and roller bearings. Assemblies include telescopic-type safety guards and 12-ft. 3-conductor extension cords and plugs.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6412 if you write the maker

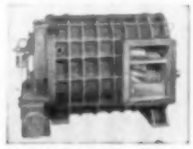
The **STANDARDAIRE BLOWER**

Precision Built

AXIAL FLOW-POSITIVE DISPLACEMENT

Investigate important operating FEATURES

- HIGH EFFICIENCY
- LOW NOISE LEVEL
- ADIABATIC COMPRESSION
- HIGH SPEED and COMPACTNESS
- RELIABILITY
- ADAPTABILITY
- CLEAN AIR DELIVERY
- DIRECT DRIVE



Write for Publication No. 90

READ STANDARD CORPORATION
Dept. E22, 370 Lexington Ave., NEW YORK 17, N. Y.

BLOWER-STOKER DIVISION

FORMERLY The Standard Stoker Co., Inc.

READ STANDARD CORPORATION

NEW YORK • CHICAGO • ERIE • YORK • LOS ANGELES

BREVITY—Identify by IEN - 6413 if you write the maker

Packaging for Uncle Sam?

SEND FOR THIS FREE CHART NOW

Here's the solution to your government packaging problems. This new NOX-RUST chart gives you Federal rust preventive specifications and a complete list of NOX-RUST products conforming to each. You will find products to meet Military, Joint Army-Navy, Army, Navy, Air Force and Ordnance requirements. It's all here in handy chart form that shows the uses, application and removal, physical description, protection afforded and miscellaneous data on frequently needed products. If you are packaging for Uncle Sam, you need this chart. Write for it today. It's yours as part of NOX-RUST'S service to industry.

NOX-RUST CHEMICAL CORPORATION

Rust Prevention Division

2477 South Halsted Street • Chicago 8, Illinois

Philadelphia • Baltimore • Detroit • San Francisco

BREVITY—Identify by IEN - 6414 if you write the maker

STOP STARTING STALLS

You can eliminate jerky starts and power stalls—use *smaller engines and motors without overloading* —when you apply the new Twin Disc Hydro-Sheave Drive to conveyor lines, and other types of equipment involving heavy starting loads.

This simple, inexpensive fluid-power package consists of a small aluminum hydraulic coupling, shaft, sleeve and sheave hub. Designed especially for use with Worthington QD Sheaves. Available in 5 sizes, for use on ¾ to 25 hp motors and engines. Write for Bulletin 145-A.

TWIN DISC HYDRO-SHEAVE DRIVES

TWIN DISC CLUTCH COMPANY • RACINE, WISCONSIN • Rockford, Illinois

BREVITY—Identify by IEN - 6415 if you write the maker

42

STOCK SIZES IN HALLOWELL SOLID STEEL COLLARS

Precision machined for shafts from 5/16" to 3" diameter inclusive.

Write for prices and name of your nearest distributor.

SPS

STANDARD PRESSED STEEL CO.

JENKINTOWN 14, PENNSYLVANIA

BREVITY—Identify by IEN - 6416 if you write the maker

STURTEVANT Laboratory Machines
Assure Quality of Products
Fast - Economical - Accurate

Sturtevant Laboratory Equipment meets the exacting requirements of laboratory work. They are fast and accurate...provide true samples. Rugged and dependable, Sturtevant equipment actually has all the features of full size machines plus extra accuracy and wider range of adjustment. The "Open-Door" accessibility permits quick, thorough cleaning . . . prevents the possibility of previous batches from contaminating new samples.
Investigate Sturtevant equipment for your laboratory. Write for complete details and catalog.

STURTEVANT MILL COMPANY
113 CLAYTON STREET, BOSTON 22, MASS.

BREVITY—Identify by IEN - 6417 if you write the maker

Mueller Climatrol

space-saving gas-fired unit heaters
(propeller fan or blower types)

Proof of **SUPERIORITY** *is here*

1. One-piece all-welded steel heat exchanger — no tie-rod, bolted, gasketed, or slip joints to leak, separate or crack.
2. Uniform air flow and heat distribution — burner extends under entire heat exchanger; insures maximum fuel economy.
3. High Crown Sheet — no flame impingement, no hot spots.

MUELLER gives you a unit to fit every application — 4 sizes: 60,000, 90,000, 120,000 and 150,000 Btu input capacities. A.G.A. and Underwriters' Laboratories approved — with design features that assure longer life, greater economy. These units are *shipped assembled and pre-wired* for quick, low-cost installation. E-44

Write for full details —

L. J. Mueller Furnace Co.
2040G W. Oklahoma Ave.
MILWAUKEE 15, WISCONSIN

BREVITY—Identify by IEN - 6418 if you write the maker

. . . replaces Chlorinated Solvent Degreasers

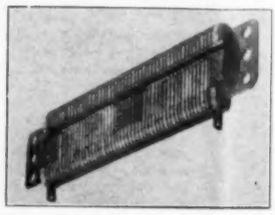
We have worked out a cleaning process for all metals in our laboratories that utilizes emulsion cleaners of the W/O type, based on petroleum products, to replace hot chlorinated solvent degreasing. In effect, this system is the equivalent to spraying the work with solvent, while immersed in water, rather than in the air. Since these emulsions are characteristically unstable, mechanical agitation is required to maintain dispersion of the solvent in the water phase. This agitation may be induced by propeller type mixers or by a pump-and-jet system. Both are effective and engineering details are available. The two-phase bath is built up of petroleum solvent procured at low cost by the user and treated with a small proportion of Northwest Addition Agent #230. The two-phase bath can also be prepared by adding directly to the water, 5% to 20% Northwest Emulsion Cleaner #23. These baths may be heated to the maximum of 160° F., depending upon the solvent used. In some cases the agitation may be dispensed with, but in all cases, the two-phase precleaning must be followed by a thorough spray rinse. This rinse has a unique cleaning effect in conjunction with a displacement film deposited on the metal in the emulsion precleaner. This film is extremely thin and invisible, but is essential to the complete removal of microscopic particles of foreign matter (smut) . . . Parts are carried on racks throughout the operation . . . the process is adaptable to the smallest shop or the largest plant, automatic or manual holding. . . .

Let our technicians consult with you.

BREVITY—Identify by IEN - 6419 if you write the maker

RESISTOR . . Wire wound design, open or enclosed assembly in multiple

Source: MULLENBACH ELECTRICAL MFG. CO.
2302 E. 27th St., Los Angeles 58, Calif.



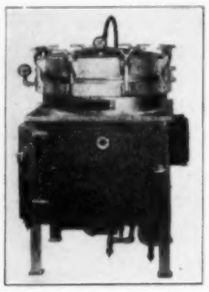
Alloy wire, resistant to corrosion and high temperature, is wound in grooves on refractory porcelain insulators in this new resistor element. The insulators are assembled over two thicknesses of mica-fiberglass-silicone insulation on a cadmium-plated flat steel frame measuring 13¾ in. in length. Overall width of the assembly is 3⅝ in. not counting connection terminals which are silver brazed to the wire.

The line includes elements with ratings at 0.25 to 20 ohms in a current range from 60 amp. down to 5 amp. on continuous duty, all based on a 375 deg. C. rise in temperature and 500-volt ac. or dc. The element assembly is approved by Underwriters' Laboratories, Inc. Four page bulletin, "Industrial Resistors," illustrates and describes a single element and the open and enclosed multiple assembly.

BREVITY—Identify by IEN - 6420 if you write the maker

OIL CONDITIONER . . Takes sludge, water, fuel dilution, dirt from oil

Source: HILLIARD CORP.
98 W. 4th St., Elmira, N. Y.



Capacities range from 2 to 500 gph. in a new line of oil conditioners to keep oils employed in lubricating and power transmission free from contaminating materials. The equipment filters the oil through a bed of Hilite fuller's earth for straight-run mineral oils or through Adstay filter for heavy-duty detergent-type oils. The filtered oil flows into a vaporizer where water, moisture and fuel dilution are removed. Then it passes through a regenerative exchanger to reduce its temperature and to heat cold incoming oil. Vapors resulting from water and fuel-dilution condensation pass into a distillate receiving tank.

BREVITY—Identify by IEN - 6421 if you write the maker

GOVERNMENT . . Where to reorganize it described in booklet that reports progress

Citizens Committee for the Hoover Report
15 W. 46th St., New York 19, N. Y.

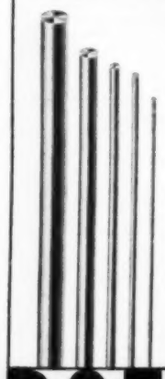
"Will We Be Ready?" is title of 20-page booklet that describes current progress of the Hoover Report on government reorganization. It tells about some of the situations uncovered, how reorganization has paid off, lists seven goals to accomplish, and tells what you can do to help.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

BREVITY—Identify by IEN - 6422 if you write the maker

SPRING WIRE

Roebling is one of the largest makers of specialty wire



ROEBLING MAKES A FULL range of Spring Wire. There's upholsterers' spring wire. There's a large line of mechanical spring wires, including hard drawn, soft, annealed or oil-tempered M.B., H.B., and Extra H.B. spring wires; music wire and valve spring wire. And Roebling's skill assures the uniform quality that brings faster, smoother production for users.

Large quantities of Roebling specialty wires are required in the rearmament program. We will do our best, however, to meet your requirements. John A. Roebling's Sons Company, Trenton 2, N. J.

ROEBLING

BREVITY—Identify by IEN - 6423 if you write the maker

STOP TAKE-UPS and DOWN-TIME with...

LEATHER for Greater Pulley Grip and Durability!
RAYON CORDS eliminate stretch and maintenance.
CORDAN LEATHER BELTS deliver More Power, More Production Longer!
CORDAN LEATHER BELTS hold tension, reduce slippage, practically eliminate take-ups and down-time.

Write TODAY for descriptive, illustrated literature.

ESTABLISHED 1881 **S. R. SIKES COMPANY**
MINNEAPOLIS 15, MINNESOTA

BREVITY—Identify by IEN - 6424 if you write the maker

REMOVES FUMES—DUST FASTER!

High Quality **PRESSURE BLOWER**

only **$49.50** REG. PRICE $70.00

For the fast, efficient elimination of welding fumes, sawdust, or other air impurities, you can depend on this precision-made, all-aluminum high-pressure blower. Made with 5½" inlet and 3½" outlet. Enclosed ¼ H.P. Westinghouse single phase motor, 115 V. A. C., provides 3450 R.P.M. and up to 450 C.F.M. Immediate delivery! Ask for #BL50W.

STANDARD ELECTRIC MFG. CO., INC.
WEST BERLIN, N. J.

BREVITY—Identify by IEN - 6425 if you write the maker

RUSTPROOF WATER

WITH ODORLESS . . . NEUTRAL . . . NON-TOXIC, NON-INFLAMMABLE

IMMUNOL

Makes any kind of water rustproof and at the same time makes an efficient, neutral solvent which actually costs less as a finished solution than kerosene or mineral solvents.

IMMUNOL leaves a non-oily, non-tacky, invisible film of rust protection that will last indefinitely unless washed off, and can be painted or lacquered over without removal. Parts can be left in the solution for days if desired or dipped for only a few moments.

Outstanding for such applications as cleaning ferrous metals, replacing alkalies and solvents; hydrostatic testing; rustproofing wire during processing; preserving bright finishes; preventing plating stains; protecting metal parts wrapped in paper without staining the paper, etc.

Send for Booklet

Haas **MILLER** *Corporation*
4th and Bristol Streets Philadelphia 40, Pa.

BREVITY—Identify by IEN - 6426 if you write the maker

REEVES BROTHERS, Inc., 54 Worth Street, New York 13, N. Y.

BREVITY—Identify by IEN - 6427 if you write the maker

The new M·S·A COMFO ULTRA-FILTER respirator provides new protection against dusts, fumes and smoke . . .

Workmen exposed to oxides of beryllium, radioactive dusts, and similar hazardous particulate matter significantly more harmful than lead, are effectively safeguarded by this new Comfo respirator.

The new Ultra-Filter is the most efficient mechanical filter commercially available. Its capability is substantiated by a simple test; tobacco smoke blown through it is completely removed from the exhaled breath. Since size particles in freshly generated smoke fall within a size range from 0.05 to 0.1 micron in diameter, this provides quantitative confirmation of filtering ability.

Other features of the respirator include the Comfo cushion facepiece with soft rolled edge that establishes a quick, gas-tight seal; aluminum filter receptacles, which resist heat and corrosion, and permit ready replacement of filters; and easy maintenance and sanitation. All parts are quickly replaceable and—except for the filters—can be washed and sterilized.

Bulletin No. CR-27, just off the press, gives full details. Ask for a copy.

MSA
SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS AND MEADE STREETS
PITTSBURGH 8, PA.

Call the M.S.A. man on your every safety problem . . . his job is to help you.

At Your Service
54 Branch Offices in the United States and Canada

BREVITY—Identify by IEN - 6429 if you write the maker

LIGHTING . . Flood light and relay for emergency operation on dry battery

Source: ELECTRIC CORD CO.
195 William St., 4th Floor, New York 38, N. Y.

Defense Light designates new floodlight, relay, extension cord and plug to connect into a 110-volt ac. circuit. The unit clamps on a standard Burgess 6 or 7½-volt battery. The relay holds the battery and lamp circuit open as long as current flows in the 110-volt circuit. Current failure results in closing the relay through the battery to provide emergency illumination. Resumption of 110-volt current again operates the relay to open the battery circuit so lamp does not operate.

BREVITY—Identify by IEN - 6430 if you write the maker

CONSTRUCTION . . Power shovel, ¾ cu. yd., has torque converter drive

Source: TRACTOMOTIVE CORP.
51 County Line Road, Deerfield, Ill.

Please note our error

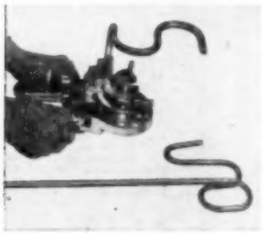
A scrambled sentence in our description of the company's new shovel, IEN-5073-51, destroyed the meaning and we want to call it to your attention. To make the statement correctly we quote as follows—"The operator selects any one of four speeds by means of a gear-shift lever and in this speed can drive forward or in reverse without shifting gears. Also, because of the torque converter, each of the four gears gives him a speed range starting from standstill."

We should have made it clear, in addition, that the shovel is not an attachment for an Allis-Chalmers tractor. Both the tractor and the shovel are manufactured by the company using an Allis-Chalmers engine as the power unit to produce a design intended essentially for loading work.

BREVITY—Identify by IEN - 6431 if you write the maker

BENDING . . Hand operated tool for ⅜, ½ and ⅝ in. tubes

Source: TAL BENDER INC.
415-19 N. Water St., Milwaukee 2, Wis.



Bend segments for three tube sizes are assembled pyramid style on the lever-operated head of this new hand tool. They apply with a sliding follower and hook-type grips that engage a tube to be bent. Offsets and bends can be made to a maximum of 180 deg. in non-ferrous and light-gage ferrous tubes. The assembly is known as Model 1200. It weighs 5 lb. and lists at $38.00.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 6432 if you write the maker

A PAID NEWS ADVERTISEMENT BY THE SCHATZ MANUFACTURING CO.

NEW LOW COST RADIAL-THRUST BALL BEARINGS REPLACE PRECISION BEARINGS

Designed to replace expensive precision ball bearings in applications within their load and speed limits, Schatz Type "A" Unground Radial Thrust "Commercial" Ball Bearings offer low-cost anti-friction performance. They are suited for pure radial loads and combination radial and thrust loads.

Their cost is often less than that of bushings or plain sleeve bearings—since costly machining and assembly time is eliminated.

Race rings are carefully machined and smoothly finished. Balls are of highly polished, hardened steel. Case—pressed on outer ring—is drawn from unhardened flat steel.

Schatz Catalog No. 11, which describes the complete "Commercial" Ball Bearing line and gives information on Schatz Special Bearing Service is offered to companies requesting it.

THE SCHATZ MANUFACTURING CO.
6750 Fairview Avenue, Poughkeepsie, N. Y.

BREVITY—Identify by IEN - 6433 if you write the maker

Prompt Deliveries... of Motch & Merryweather SLITTING and SLOTTING SAWS if you order *NOW!*

* * *

A complete range of sizes available at your local dealer or from our plant in Cleveland.

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING • CLEVELAND 13, OHIO
COMMAND OUR UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

BREVITY—Identify by IEN - 6434 if you write the maker

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METAL, RUBBER, or WOOD ROLLS

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INDUSTRIAL ROLL DIVISION

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873 Main Street — Orange, Mass., U.S.A.

*Reg. U.S. Pat. Off.

BREVITY—Identify by IEN - 6435 if you write the maker

Sprinkle Metso 66 on greasy concrete that has been wet. Brush, flush and there—concrete is clean, grease-free, non-slippery.

Stubborn grease and oil in the concrete pores are lifted to the surface. After several Metso washings, clean-up is easier because grease no longer soaks into the concrete.

Send for free sample and instruction folder.

Philadelphia Quartz Company
1131 Public Ledger Bldg., Phila. 6, Pa.

METSO *detergents*

BREVITY—Identify by IEN - 6436 if you write the maker

Smartest Buy for plant supply

The BIG 10-ROLL PACKAGE

Every roll sealed in cellophane stays factory-fresh. Ask your dealer for this handy package of the tape that goes further, wraps right, lasts longer. Jenkins Bros. (Rubber Div.), 100 Park Ave., New York 17.

JENKINS Gold Seal Tape
FRICTION . RUBBER

MADE BY JENKINS BROS MAKERS OF FAMOUS JENKINS VALVES

BREVITY—Identify by IEN - 6437 if you write the maker

ONE OF A LINE

CHOICE OF THE MARINES FOR Dependable Controls

GUARDIAN RELAYS

"From the halls of Montezuma" to marine testing laboratories — technicians are singing the praise of Guardian Relays. The Series 335 D.C. Relay shown above is but one of a most comprehensive line of Guardian Relays *approved* by the Marine Corps and all branches of the Armed Forces. Available with open-type construction or *hermetically sealed* — Guardian's Series 335 D.C. Relay or any Government Approved Guardian control unit used singly, in combination, or in completely packaged controls, will serve you faithfully and well.

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1620G W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

BREVITY—Identify by IEN - 6438 if you write the maker

This TUTHILL

Automatic Reversing Pump helps answer design problems

If your problem involves driving the pump from a reversing shaft, Tuthill Model R is a practical answer. This automatic reversing pump delivers from the same port regardless of direction of shaft rotation. Its flexibility of performance makes it ideal for lubrication and coolant service, particularly wherever the ultimate direction of shaft rotation is not known. Capacities from 1 to 200 g.p.m. and pressures up to 100 p.s.i.

Write for Tuthill Reversing Pump Bulletin

TUTHILL PUMP COMPANY
929 East 95th Street, Chicago 19, Illinois

JUNE 1951 INDEX TO ALL PRODUCTS

How to find what you need:

Leaf through the issue with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject headings.

Next use this index to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

Now take one subject at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

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STUDS · RIVETS

Standard and Special Types Made for Your Particular Requirements

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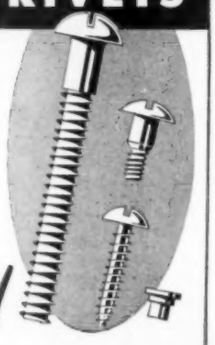

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METAL FASTENER DIVISION
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BREVITY—Identify by IEN - 6440 if you write the maker

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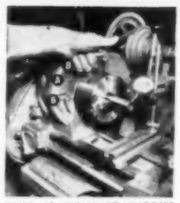
HANDLES MORE JOBS THAN ANY OTHER CHUCK!



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2. Handle Collet and step-collet work.
3. End most stub arbor, mandrel needs.
4. Adapt to dividing heads, grinders, screw machines, lathes.
5. Minimum overhang—grips work closer to spindle for greater accuracy.

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616 SCHIPPERS LANE
KALAMAZOO, MICH.

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Write today for Bulletin WH-100.

WILLIAMS-HAGER FLANGED Silent CHECK VALVES

THE WILLIAMS GAUGE CO.
Pump Valves . . . Water Gauges . . . Gauge Cocks . . . Steam Traps . . . Pump Governors . . . Feed Water Regulators . . . Water Columns
2900 PENNSYLVANIA AVE. • PITTSBURGH 33, PA.

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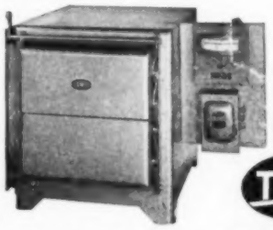

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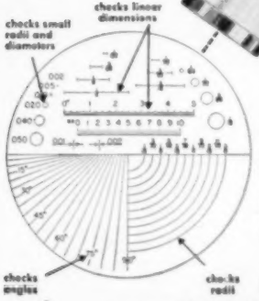

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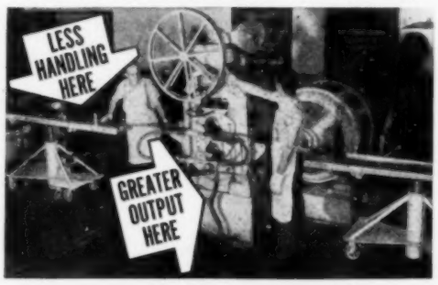

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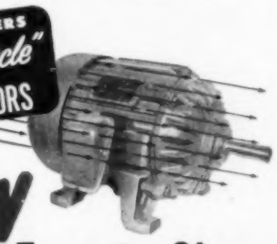

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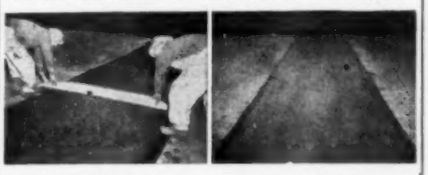

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